CORPORATION OF GLASGOW.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH, CITY OF GLASGOW.

1926.

ORDERED BY THE COMMITTEE ON HEALTH TO BE PRINTED.

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PREFACE

The methods of mechanical tabulation which are being gradually applied throughout the Department have enabled the Annual Report for 1926 to be issued at an earlier date than has been possible hitherto.

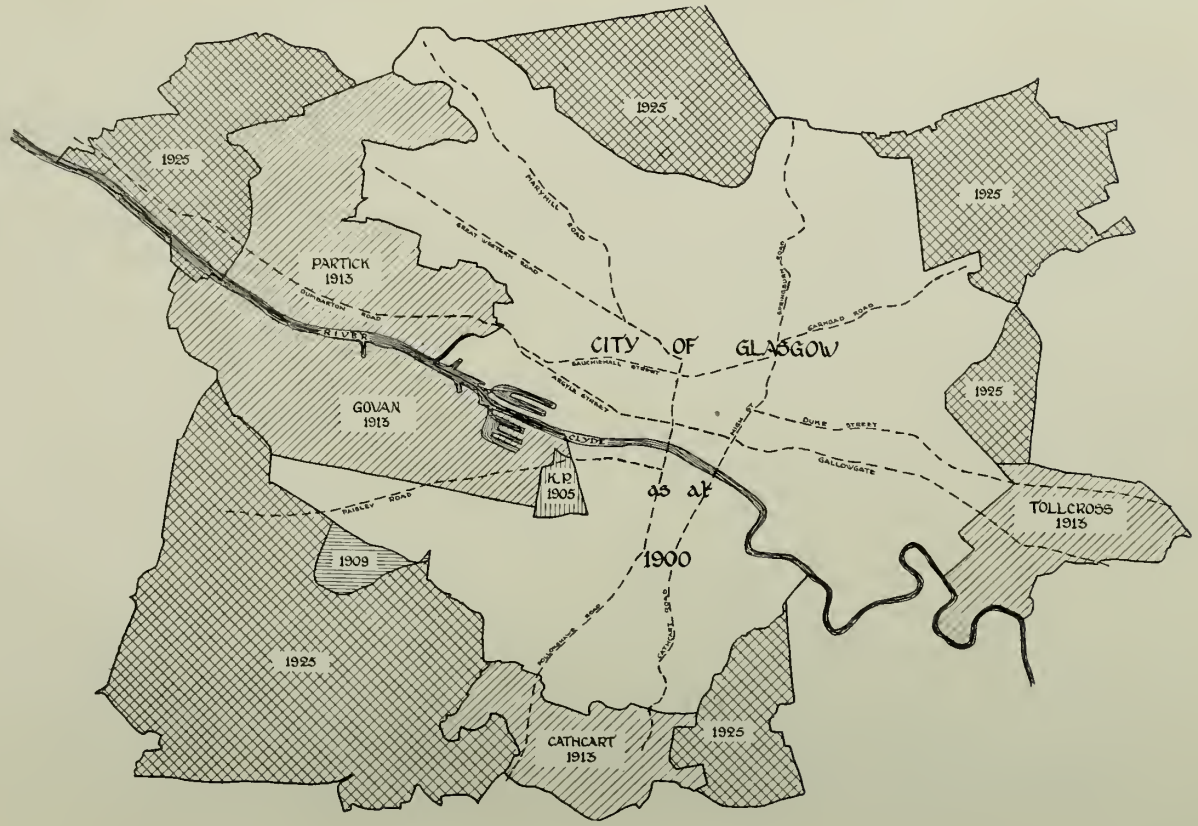
The Annual Report as now published serves a triple purpose:—(1) It contains a record of the essential data bearing on the state of health of the City. (2) It is briefly descriptive of the work accomplished in the many branches of the Department's increasing activities. (3) Under appropriate Sections it deals more fully with subjects which have specially engaged the attention of the Committee on Health, or which are of particular interest as indicating the tendencies of modern administrative methods in the application of preventive medicine.

The reports of the Hospitals, several of which contain accounts of recent advances in methods of investigation and treatment of disease, are incorporated.

A. S. M. MACGREGOR,
Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,
GLASGOW, 30*th June*, 1927.

GLASGOW.—EXTENSIONS OF BOUNDARY SINCE 1900.



REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1926

PART I

SECTION I

POPULATION, &c.

By the Glasgow Boundaries Act, 1925, which took effect as from 15th May, 1926, 10,328 acres were added to the City, mostly in the South-West, West, and Northern Districts. The situation and size of the areas are indicated on the outline map which faces, and which also shows the previous extensions of the City since the beginning of the present century. These are included below:—

Census Year	Population	Extensions	
1801	77,385		
1811	100,749		
1821	147,043	1830,	the district of Blythswood.
1831	202,426		
1841	255,650	1846,	the burghs of Anderston, Calton, and Gorbals.
1851	329,097		
1861	395,503		
1871	477,744	1872,	the districts of Springburn, Possil, Gilmorehill and Alexandra Park.
		1878,	the district of Coplawhill.
1881	511,415		
1891	658,073	1891,	the police burghs of Hillhead, Maryhill, Govanhill, Crosshill, and Pollokshields, and other suburban areas.
		1896,	Bellahouston
		1899,	Richmond Park and district, and the districts of Provanmill and Blackhill.
1901	761,709	1905,	the police burgh of Kinning Park.
		1909,	the district of Corkerhill.
1911	784,496	1912,	the burghs of Partick, Govan and Pollokshaws, together with certain landward areas in the counties of Dunbarton, Lanark and Renfrew.
1921	1,034,174		

In the following table is given a summary of the areas annexed from the various counties in 1926, indicating the parishes concerned, the populations being those at the Census of 1921:—

POPULATION—CENSUS, 1921.

	Both Sexes	Males	Females
Glasgow Burgh before Extension, - -	1,034,174	504,568	529,606
Area annexed:			
Lanark County, - - -	**4,842**	**2,629**	**2,213**
Cadder Parish, - - -	929	360	569
Glasgow ,, - - -	3,847	2,240	1,607
Rutherglen ,, - - -	66	29	37
Renfrew County, - - -	**12,211**	**5,911**	**6,300**
Cathcart Parish, - - -	119	59	60
Eastwood ,, - - -	1,002	423	579
Paisley ,, - - -	5,386	2,560	2,826
Renfrew ,, - - -	5,704	2,869	2,835
Dunbarton County, - - -	**291**	**158**	**133**
New Kilpatrick Parish, - -	291	158	133
Burgh after Extension, - - -	1,051,518	513,266	538,252

It will thus be seen that the present extension has been more one of territory than of population. The only populous areas included are Carntyne to the east, Millerston and Lambhill to the north, and Knightswood, Scotstoun, and Yoker to the west. On the south of the river the districts added included Aikenhead, Kennishead, Mansewood, Nitshill, Crookston, and Cardonald. The areas now gathered into the City provide opportunities for future housing development.

For the purpose of facilitating comparison of the statistics for 1926 with those of previous years, the tables in the Appendix have been drawn up on the basis of the City as unextended, because the added areas did not come in until the middle of the year under review.

The population of the City as it was before extension is estimated at 1,101,622, compared with 1,097,841 for the same area in 1925, an increase of 3,781 persons. These estimates are based on the returns, supplied by the City Assessor, of occupied houses at Whitsunday of each year and the populations in institutions as ascertained by a special Census taken at the end of June.

Added Area.—The population added to the City by the extension has been included with the thirteen contiguous Municipal Wards of the former City, several of which have thus undergone substantial alteration in acreage and population. For statistical purposes and adjustment of the population as at Whitsunday, 1926, the following statement is introduced showing additions of the house and institutional population, together with the resulting population and acreage of the expanded City Wards:—

WARDS AFFECTED BY EXTENSION OF CITY.

		Added Portions			Complete Wards		
No.	Ward	House Population	Institutions and Harbour	Acreage	Population	Acreage	Persons per Acre
1	Shettleston and Tollcross, -	83	—	135	34,503	1,022	34
8	Provan, - - -	735	713	311	36,761	1,284	29
10	Springburn, - - -	1,195	1,093	1,501	22,576	2,261	10
19	Ruchill, - - -	1,735	—	999	29,949	1,766	17
21	Maryhill, - - -	160	—	476	27,790	1,391	20
25	Whiteinch, - - -	6,965	126	1,430	38,156	2,696	14
26	Hutchesontown, - -	—	—	11	41,705	389	107
31	Fairfield, - -	9	—	197	34,653	1,402	25
32	Pollokshields, - -	3,243	1,655	3,005	30,968	4,678	7
34	Pollokshaws, - -	2,086	—	1,504	21,411	1,847	12
35	Govanhill, - - -	4	—	75	31,980	365	88
36	Langside, - - -	35	—	127	19,174	557	34
37	Cathcart, - - -	87	—	557	17,086	1,327	13
	Total, - -	16,337	3,587	10,328			

The total added population here indicated is 19,924.

Ward Population.—The Ward populations in dwelling-houses is shown in the first column of Table I of the Appendix. Movements of population as between one Municipal Ward and another are mostly dependent on building activity and on demolition of insanitary houses under Slum Clearance Schemes. Table I indicates the degree to which Ward populations have been affected by these events. For instance, in Shettleston and Tollcross there is an increase of 271, due to the occupation of additional houses in the Sandyhills Scheme; whereas there is

an increase of 508 in Parkhead, due to the transference to Newbank of families from slum areas. In Springburn the increase is 527, and in Maryhill the difference is 900, which is almost wholly institutional. The largest increase occurred in Whiteinch, with 1,226, due to the completion of houses by private enterprise and the occupation of a considerable number of houses in Knightswood Housing Scheme. To the south of the river the largest increases are 866 in Fairfield Ward and 601 in Cathcart, the former being due to the occupation of Corporation houses, and the latter to the erection of private houses of the block or terrace type. The clearance of slum properties is the reason for decreases of 432 in Calton, 403 in Blythswood, 422 in Cowcaddens, and in Anderston 287, and Sandyford 200, to the north of the river; while for a similar reason there are decreases of 250 in Gorbals and 441 in Kingston.

Institutional Population.—The total number of persons found to be resident in institutions at 30th June was 30,292, an increase of 477 on the figure for the previous year. The largest increase occurs in Maryhill (893), due entirely to the larger number of soldiers resident in Maryhill Barracks. Barnhill Poorhouse is the only institution in Cowlairs Ward where there is an increase of 265; while Stobhill Hospital, in Springburn Ward, had 171 more residents this year. In this district there are now two additional institutions, Robroyston Hospital and Mossbank Industrial School, with a total population of 1,093, which, however, is not put against the Ward this year. Increases are also shown in Townhead, Kelvinside, and Fairfield.

The largest decrease occurs in Calton, where there were 334 fewer persons, largely because of the closing of the Family Home, which had 248 residents in the preceding year, and a considerable reduction of the number in the Salvation Army Home. Other decreases of over 100 occur in Exchange, where there are several hotels and common lodging-houses, Blythswood, Anderston, and Woodside.

Density.—In the old City, with 19,183 acres, the density at 57 per acre is the same as in 1925. In the added area of 10,328 acres the density is 2 per acre, so that in the total City as now extended there are 29,511 acres, and the average density is reduced to 38 persons per acre.

Inhabited and Empty Houses.—In Appendix Table II is shown the number of inhabited and empty houses in each Municipal Ward as at Whitsunday, 1926. As with populations, the number of occupied houses varies with the number of new houses occupied during the year in Wards on the periphery of the City and the demolition of others in the more central districts. The table indicates where these changes are taking place.

Altogether there is an increase of 747 houses in the City as before extension. In the added area there are 3,692 houses, making a total in the new City area of 245,211. The Appendix table referred to has been adjusted to include the number of "inhabitant" occupiers for both years 1925 and 1926. These are houses occupied by church officers, janitors, or employees in institutions, whose rents are included in the total value of the buildings to which they are attached, together with the accommodation occupied as dwelling-houses connected with shops.

The following summary contains the figures of unoccupied houses during recent years as compared with the pre-war year 1913, when there were 18,710 empty houses:—

NUMBER OF UNOCCUPIED HOUSES CLASSIFIED ACCORDING TO NUMBER OF APARTMENTS.

									1926	
	1913	1919	1920	1921	1922	1923	1924	1925	Old City	Extended City
One apartment, -	*4,169*	319	120	33	27	43	93	91	79	81
Two apartments, -	*9,762*	181	72	17	27	55	82	76	61	62
Three ,, -	*2,731*	21	9	9	10	32	27	28	43	45
Four ,, -	*954*	13	15	8	20	32	42	21	35	36
Five ,, and up,	*1,094*	103	75	76	116	163	205	150	190	197
	18,710	637	291	143	200	325	449	366	408	421

The largest number of empty houses in any one Ward is 54 in Kelvinside, 47 of which are of five apartments or more; while 38 in Whiteinch Ward are of a similar class, out of a total of 48. Altogether there are only 45 three-apartment and 36 four-apartment houses unoccupied in the whole City.

Linings granted by Dean of Guild Court.—A summary of the linings granted by the Dean of Guild Court over a series of years is given in Table III in the Appendix.

During 1926 linings were granted for the erection of 6,796 houses, 318 of these being for houses of two apartments and 4,649 for houses of three apartments. This is the largest number of linings granted in any year since before the war, and is largely due to the erection of houses in Corporation Schemes.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS.

The weather conditions during 1926 were more or less normal, although there was an early spell of wintry weather during October. The number of hours of sunshine in September, which was only 95, compares with 119 and 104 hours respectively in 1925 and 1924. For the whole year 1926 the total number of hours of sunshine was 1,174, compared with 1,224 in 1925, but 22 hours more than the average of the twelve years 1915-26.

Owing to the greater interest now taken in sunshine records, Table IV in the Appendix has this year been extended to include monthly and yearly records of sunshine given in the meteorological records of the Glasgow Parks Department.

The mean temperature of the year was 47·7°, compared with the rather lower temperature of 46·7° in 1925 and 46·1° in 1924. The highest temperature in the shade, 86°, occurred in July, and the lowest, 22°, in October.

As is usual, higher temperatures are associated with greater rainfall, which for 1926 amounted to 45·91 inches, compared with 38·24 inches during the previous year. The average rainfall for the ten years 1917-26 was 39·75 inches. The lowest monthly rainfall was 2·06 inches in December, followed by 2·36 in June and 2·78 inches in March. There were 5·70 inches and 5·89 inches in October and November respectively. The rainfall during the two latter months was responsible for 25 per cent. of the total during the year.

BLIND PERSONS ACT.

The only point relating to the medical side of the administration of the Act which calls for remark is the procedure adopted in certifying candidates for admission to the Royal Blind Asylum on behalf of the Joint-Committee for Glasgow and the South-West of Scotland.

As a result of the knowledge obtained in the "Report on the Causes of Blindness in Glasgow" (1926: Freeland Fergus and Halliday), steps were taken to secure a more uniform standard for the admission of candidates for training to the Royal Blind Asylum. In Circular No. 681, 29th March, 1926, the Ministry of Health of England suggested that applicants should be judged mainly in relation to a numerical standard of visual acuity. They stated that "it is the practice of the Minister to regard persons whose visual acuity, after correction of refractive errors, is greater than 6-60ths (Snellen) as not being blind, unless the loss of eyesight includes such special conditions as great contractions of the field of vision." This definition has recently been modified so as to permit of greater elasticity in determining what is blindness within the meaning of the Act (Circular No. 780, 27th April, 1927).

So far no guidance on this subject has been given by the Scottish Board of Health, and it is felt that a memorandum on the meaning which they attach to the word "blindness" should be issued so as to secure a more uniform standard of blindness throughout the country. Standards may well differ in their application to school children, trainees, and old age pensioners.

In Glasgow the rigid numerical standard of the Ministry of Health has not been fully adopted. It has proved useful as a guide rather than as a definition, and an opinion is passed on each case only after the fullest consideration of its own peculiar circumstances.

For the admission of candidates for training in the Royal Blind Asylum the following procedure has been evolved and adopted:—

Candidates first make application for training to the General Manager of the Royal Blind Asylum, who obtains various sociological particulars on a printed schedule. He then refers the candidate to the Education Authority of the district in which the candidate resides. Arrangements are then made by the respective Education Authorities for an ophthalmological examination by one of their medical officers. For the purpose of recording the results of this examination a special form has been drawn up. The records both sociological and medical are then sent for approval to the Medical Adviser to the Joint-Committee. In cases which are considered by the medical officer of the Education Authorities to be doubtfully blind, arrangement is made for further examination by an approved consulting ophthalmologist. All cases found medically suitable for training are then certified to be "blind persons within the meaning of the Act," and only such are admitted for training to the Royal Blind Asylum.

The scheme outlined above came into operation on July 1st, 1926, and up to the end of the year 49 applicants had been dealt with; of these, 14 were found not to be blind. Of the 35 candidates found suitable, 24 were Glasgow cases, and 11 belonged to the south-western counties. The Wassermann test was taken in 33 of the 35 candidates,

and in 11 cases was found to be positive. The following shows the age and sex distribution of the approved candidates :—

	Males	Females
15-19, ...	10	8
20-24, ...	2	2
25-29, ...	2	1
30-34, ...	3	4
35-39, ...	1	0
40-44, ...	2	0
	20	15

The causes of blindness in these cases are indicated below :—

I.—Congenital Conditions, including Cataract—	
Congenital Cataract, ...	2
Senile Cataract, ...	3
Albinism, ...	1
Aniridia, ...	1
II.—Infections—	
Syphilis, ...	11
Gonorrhœa, ...	4
Measles, ...	2
Pneumonia, ...	1
III.—Injury, ...	2
IV.—Glaucoma, ...	1
V.—Refractive Errors, ...	0
VI.—Cause Unknown, ...	7
	35

HEALTH LECTURES.

During the winter, 1926-27, the Corporation again co-operated with the Glasgow Burgh Insurance Committee, the Scottish Committee, and the Glasgow Branch of the British Social Hygiene Council in the organisation of lectures on health subjects of interest to the public generally. The following, which were given in the M'Lellan Galleries, were illustrated by lantern slides and suitable films. The total of the estimated attendances was 4,500.

Title.	Lecturer.
"Healthy Womanhood" (Women's Meeting),	Professor Winifred Cullis.
"Health and Citizenship," - - - -	Dr. A. S. M. Macgregor.
"Education towards Health," - - -	Professor J. Arthur Thomson.
"Venereal Diseases : their serious effects and treatment." - - - - -	Dr. W. G. Clark.
"The Place of the Body in Nutrition," -	Professor E. P. Cathcart.
"The Mind and Health," - - - -	Professor P. S. Lelean.

In addition to the above, district lectures on (1) "Healthy Homes," (2) "Venereal Diseases and their Serious Effects," and (3) "The Smoke Problem and its Solution," were given in Springburn Public Hall and St. Mungo Hall, Hutchesontown. Opportunity was taken to show health propaganda films and slides. The estimated attendances were as follows:—

Springburn (three lectures), - - - -	2,050
Hutchesontown (two lectures), - - - -	1,700

LEGISLATION.

During the year the following Acts of Parliament and Regulations dealing directly with Public Health or having a bearing thereon came into operation:—

ACTS OF PARLIAMENT.

Housing (Rural Workers) Act, 1926.

Lead Paint (Protection against Poisoning) Act, 1926.

Merchandise Marks Act, 1926.

REGULATIONS, CIRCULARS, AND MEMORANDA.

Maternity and Child Welfare—

Nil.

Infectious Diseases—

Order No. 972, dated 31st July, 1926: Notification of Puerperal Fever and definition of Puerperal Pyrexia.

Circular No. 722, dated 13th August, 1926: Puerperal Fever and Pyrexia.

Circular No. 5, dated 13th August, 1926: Hospital Treatment of the Sequelae of Encephalitis Lethargica.

Diabetes—

Circular I.D. No. 1, dated 2nd March, 1926: Provision of Medicines and Treatment under Public Health (Scotland) Amendment Act, 1925.

Tuberculosis—

Circular No. 155,546, dated 9th June, 1926: St. Fechan's Sanatorium, Ecclefechan, approved.

Circular No. 118/T, dated 27th May, 1926: Vacant beds at Papworth, Preston, and Barrowmore.

Milk—

Circular No. 3, dated 9th February, 1926: Milk and Dairies (Scotland) Act, 1914.

Food—

Order, Draft, dated 27th September, 1926: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1926.

Circular No. 5, Foods, dated 28th December, 1926: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1926.

Order No. 1603/S.50, dated 20th December, 1926: Public Health (Preservatives, &c., in Food) Amendment Regulations (Scotland), 1926.

Housing and Town Planning—

Order No. 843/S.32, dated 9th July, 1926: Town Planning Procedure Regulations.

SECTION II.

VITAL STATISTICS.

In order to preserve accurate comparison with previous years, the vital statistics of the added areas have not been incorporated in those of the year under review, but are treated as separate items. This procedure has been adopted throughout the important comparative detailed tables in the Appendices. In the following summary the figures for the Old City are compared with those of the two preceding years:—

SUMMARY.

	1924	1925	1926 (Old City)
Population, ...	1,095,969	1,097,841	1,101,622
Acreage, ...	19,183	19,183	19,183
Persons per acre, ...	57	57	57
Number of Inhabited Houses,	240,283	240,772	241,519
Deaths—Number registered,	17,334	15,882	16,156
,, After correction for Institutions, &c., ...	16,868	15,336	15,628
Births—Number registered, ...	25,710	25,832	24,857
,, After correction, ...	25,330	25,416	24,345
Death-rate per 1,000 living—All causes, ...	15·39	13·97	14·19
Birth-rate per 1,000 living, ...	23·11	23·15	22·10
Deaths under One Year—After correction, ...	3,005	2,591	2,532
Deaths under One Year—Per 1,000 births, ...	119	102	104

BIRTHS.

The births during the year numbered 24,345, compared with 25,416 in 1925. On the estimated population and corrected births the birth-rate is 22·10 per 1,000 persons, compared with 23·15 in 1925 and 23·11 in 1924. For these years the Registrar-General estimates the birth-rate at 23·5, 24·6, and 24·1 respectively.

These figures and rates are exclusive of 196 births occurring since 15th May in the new areas then added to the City.

This is the lowest rate recorded since the war, and in only two previous years has it been lower, viz., 1917 and 1918, with rates of 21·7 and 21·1. A fall in the birth-rate is occurring more or less throughout the country, although during 1926 other large towns did not show so decided a fall as Glasgow. The birth-rates of Glasgow and Liverpool are still, however, higher than those of the other larger towns quoted in the table below.

The birth-rate shows some considerable variations throughout the wards. These are indicated in Table V of the Appendix. Wards with high rates are Mile-end, with 31 per 1,000 persons; Dalmarnock and Calton, 30; and Cowcaddens and Exchange, 29. Wards with low rates are—Kelvinside, 8; Cathcart, 10; Park, 11; and 12 in Langside. Comparing the ward rates with those for the previous years, Mile-end and Maryhill are less by 3 per 1,000; Govan, 2·9; Fairfield, 2·6; and Dennistoun, 2·5.

Higher birth-rates occurred in only seven wards. All of them are relatively unimportant, with the exception of Anderston, where the increase is 1·3 per 1,000.

The following information from the Registrar-General's returns shows the birth-rates for Glasgow and Scotland since 1871:—

	Glasgow.	Scotland		Glasgow.	Scotland.
1871-1880, ...	36·6	34·9	1921, ...	28·7	25·2
1881-1890, ...	36·5	32·4	1922, ...	27·3	23·5
1891-1900, ...	33·7	30·3	1923, ...	25·6	22·8
1901-1910, ...	31·2	28·4	1924, ...	24·1	21·9
1911-1915, ...	27·4	25·4	1925, ...	24·6	21·3
1916-1920, ...	24·1	22·9	1926, ...	23·5	20·9

On the basis of local returns, the following comparison is made of the rates for several years in Glasgow and other towns:—

	1924	1925	1926
Glasgow, ...	**23·1**	**23·2**	**22·1**
Edinburgh, ...	20·0	18·6	18·7
Dundee, ...	22·6	21·8	21·9
Aberdeen, ...	21·9	21·6	21·6
London, ...	18·6	17·9	17·1
Liverpool.	24·6	23·3	23·3
Manchester, ...	19·2	18·6	18·3
Birmingham, ...	19·2	18·8	18·7

Illegitimate Births.—During the year there were 1,450 births registered as illegitimate, which is equal to 6·0 per cent. of the total births, compared with 5·8 per cent. in 1925. These percentages are slightly less than the average for the country as a whole. The reduction has been very gradual since the beginning of the present century, although the proportions during the war were somewhat higher. The ward distribution of illegitimate births is given in Appendix Table V.

A more accurate comparison of the legitimate and illegitimate birth-rates is obtained when the calculation is based on the number of females of child-bearing ages; the former on married women of 15 to 44 years of age, and the latter on the unmarried women and widows of the same ages.

This is shown in the following table for each Census year since 1871 and during each year since 1921. In both groups there has been a considerable decline over the period given. The legitimate birth-rate, which was almost 300 in 1871, is now only about two-thirds of that rate, the reduction being 34 per cent. This may be compared with a reduction of 63 per cent. in the illegitimate birth-rate.

GLASGOW.—BIRTH-RATES, DISTINGUISHING LEGITIMATE AND ILLEGITIMATE, IN CERTAIN YEARS FROM 1871.

(Based on figures of Registrar General).

Year	No. of Legitimate Births	Rate per 1000 Married Women Aged 15 to 44 years	No. of Illegitimate Births	Rate per 1000 Unmarried Women and Widows Aged 15 to 44 years
1871	17,118	298	1,749	27
1881	17,605	293	1,501	22
1891	18,304	283	1,553	21
1901	22,676	260	1,530	14
1911	19,966	229	1,603	14
1921	27,790	238	1,922	13
1922	26,565	227	1,733	12
1923	25,209	216	1,493	10
1924	23,844	204	1,486	10
1925	23,931	205	1,491	10
1926 (Old City)	22,895	196	1,450	10

MARRIAGES.

The marriage rates per 1,000 persons living in Glasgow since 1871 are given in the following table. Except for the years following the war, when the rates were comparatively heavy, the average over the whole period has remained fairly constant, around 9 per 1,000. The rate of 8·3 for 1926 is, along with that for 1917, the lowest in the series. Marriage rates do not appear to depend very much on housing shortage.

GLASGOW.—MARRIAGES PER 1,000 PERSONS LIVING.

1871-1880, ...	9·1	1919, ...	9·0
1881-1890.	9·3	1920, ...	12·4
1891-1900, ...	9·4	1921, ...	10·7
1901-1910, ...	8·8	1922, ...	9·1
1911-1915, ...	9·8	1923, ...	9·6
1916, ...	8·6	1924, ...	8·4
1917, ...	8·3	1925, ...	8·5
1918, ...	9·4	1926, ...	8·3

DEATHS.

The total number of deaths registered during the year was 16,156, and after adjustment for transfers, inward and outward, the corrected number is 15,628, apart from 103 occurring in the added area since 15th May. The death-rate is thus 14·2 per 1,000, compared with 14·0 for the previous year and 14·8 the average for 1921-25. Appendix Table VI gives the number of deaths and death-rates for each Municipal Ward.

None of the ward rates is excessive, the highest being 17·6 in Mile-end and Exchange Wards, followed by 17·2 in Gorbals, while the rates for Calton and Blythswood are between 16 and 17. The lowest rate is 8·7 in Cathcart, followed by 9·2 in Langside, and 9·9 in both Springburn and Govanhill. In Ruchill, Kelvinside, Partick West, Whiteinch, and Pollokshields the death-rate is between 10 and 11 per 1,000 of their populations.

According to the Registrar-General's returns, the rates for Glasgow since 1881 have been as follows:—

GLASGOW.—ALL CAUSES—DEATH-RATE PER 1,000 LIVING.

1881-1890, ...	24·22	1920, ...	15·30
1891-1900, ...	21·53	1921, ...	15·10
1901-1910, ...	19·56	1922, ...	17·20
1911-1915. ...	17·04	1923, ...	14·28
1916, ...	15·16	1924.	16·10
1917, ...	15·10	1925, ...	14·83
1918, ...	16·50	1926, ...	15·09
1919, ...	16·36		

The following is a comparison of death-rates based on local returns of several large towns in England and Scotland:—

GLASGOW AND SEVERAL TOWNS—DEATH-RATE PER 1,000 LIVING.

	1924	1925	1926
Glasgow, ...	**15·4**	**14·0**	**14·2**
Edinburgh.	15·0	14·5	13·5
Dundee, ...	16·4	16·7	14·8
Aberdeen, ...	14·7	13·8	13·4
London, ...	12·2	11·9	11·6
Liverpool, ...	13·6	14·1	13·7
Manchester, ...	14·0	14·4	13·2
Birmingham, ...	11·6	11·7	11·3

Transfer Deaths.—The deaths on which the above rates for Glasgow are calculated include those of persons formerly resident in Glasgow, but dying in institutions or elsewhere outwith the City. On the other hand, those dying within, but with home addresses outside, are excluded. The "inward transfers" numbered 820 during 1926, compared with 786 and 910 for the two preceding years, while the "outward transfers" numbered 1,348, compared with 1,332 and 1,376. The causes of deaths in both these groups are given in Appendix Table No. VII.

CAUSES OF DEATH.

The principal causes of death are summarised as follows:—

SUMMARY OF DEATH-RATES PER 1,000 FROM PRINCIPAL CAUSES.

General Diseases—	1924	1925	1926
(*a*) Infectious, ...	1·71	1·24	1·23
(*b*) Septic, ...	·12	·13	·13
(*c*) Tuberculous—			
(1) Phthisis, ...	1·01	·92	·86
(2) Others, ...	·39	·36	·31
(*d*) Malignant (cancer, &c.),	1·16	1·26	1·26
(*e*) Other General Diseases,	·42	·25	·41
Diseases of the nervous system,	1·60	1·45	1·50
Diseases of the circulatory system,	1·90	2·02	2·09
Diseases of respiration, ...	3·18	2·52	2·47
Do. digestion, ...	·49	·52	·55
Congenital defects and malformations (including premature births),	·85	·78	·81
Violence, ...	·52	·56	·59
All other causes, ...	2·04	1·96	1·96
All causes, ...	15·39	13·97	14·19

The death-rate caused by infectious diseases, 1·23 per 1,000, compares favourably with that of the preceding years quoted above. This is, of course, a composite rate, depending for its magnitude on the prevalence and severity of children's diseases, such as whooping-cough, measles, and pneumonia. A disturbing factor during the year was the very considerable measles epidemic which prevailed during the winter of 1925-26, and which was more extensive during the early part of the year under review. The effect of this on the vital statistics is to some extent balanced by a lesser prevalence of whooping-cough. Enteric fever is now almost negligible as a cause of death. It accounted for only 16 deaths last year. Scarlet fever, on the other hand, has been gradually increasing since the war, in incidence but not in severity. Its case-mortality is low in proportion to its prevalence. Nevertheless, the mortality rate from this affection has increased from 62 per million in 1925 to 89 in 1926, and from an average of 64 for the preceding five years. A slight increase has also taken place in the death-rate from diphtheria.

The influenza death-rate was 386 per million. Its incidence was confined to the late spring of the year, when a sudden and severe outbreak occurred.

The death-rate from pulmonary tuberculosis underwent a further decline, as did also that of other forms of the disease. The former has now reached the comparatively low figure of ·86 per 1,000, as compared with ·92 for 1925, and 1·0 for 1924. Since 1915 the rate has been halved. The acceleration in the decline of non-pulmonary tuberculosis has been even more decided. It is now ·31 per 1,000, as against ·36 in 1925. Most striking has been the reduction in abdominal tuberculosis, as the following shows:—103, 97, and 67 per million for 1924, 1925, and 1926 respectively.

The death-rate from malignant diseases is again 1·26 per 1,000, with 1·20 for the average of 1921-25. The mortality from this cause has been increasing over a considerable period. The total deaths for last year numbered 1,391.

The death-rate from nervous diseases remains fairly uniform, although at 1·50 per 1,000 there is a slight increase from the low rate of 1925.

Deaths from cerebro-spinal fever were more numerous, and so also were those caused by cerebral hæmorrhage. Deaths from circulatory diseases again show an increase, and it is probable that, as with cancer, this increase is associated with the larger number of persons surviving to ages at which these causes of death prevail.

The death-rate from diseases of respiration is 2·47, which is lower than that of 1925, but the mortality from this group varies considerably with the presence or absence of pneumonia in epidemic form. Digestive diseases have shown a definite decline since the war, the death-rate now being little more on the average than one-third of the corresponding rate for 1914. The greatest decrease has occurred in diarrhœa and enteritis.

The mortality from congenital defects and malformations is slightly higher than that for last year, which, however, was the lowest recorded. In order to establish a proper comparison, it would be necessary to calculate these against the births occurring and not on the death-rate of the population generally. The death-rate from violence is greater than in any year since 1916, with the exception of 1920.

The number of deaths and the death-rates per 1,000,000 population from certain principal causes are given in Appendix Table VIII.

Age and Sex Distribution.

This information is given in Appendix Tables IXA and IXB. In every 1,000 deaths during 1926 there were 520 males and 480 females, as compared with 518 and 482 for the preceding year.

Proportion of Male and Female Deaths per 1,000.

	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+	Total
Males,	95	30	21	10	7	10	10	24	36	60	83	85	49	520
Females,	67	26	18	9	6	10	13	26	35	46	67	80	77	480

At each age-group the deaths among males exceed those among females, with three exceptions. At ages from 20 to 35, and again at ages over 75, more deaths occur among females. In the first year of life deaths among male infants exceed those of females by nearly 50 per cent.

The age and sex distribution of deaths from the various infectious diseases remains practically the same. Most of these diseases occur among children up to 15 years of age, with the exception of enteric fever, from which only one female death occurred in this group. Deaths from scarlet fever and whooping-cough, however, were more fatal among females, to the extent of 60 per cent.

Male deaths from erysipelas are greatly in excess of female deaths, while both septicæmia and other septic diseases are also more fatal to males, especially at the higher ages.

Of 826 deaths from tuberculosis, 455 were males and 371 females. The mortality among males is lower than that among females up to 25 years of age, but thereafter the mortality among males becomes greater. In fact, from 45 years upwards the male deaths at each age period are three times the relative numbers for females.

The mortality from cancer is, as usual, heavier among females, the excess occurring at ages 20 to 55, and again at ages over 75, the latter being probably due to the considerable excess of females at these ages. Rheumatic fever as an immediate cause of death is relatively unimportant, there being only 22 males and 26 females. Its importance lies in the fact that it contributes to fatalities from other causes, *e.g.*, heart disease.

Cerebro-spinal fever was more fatal among males, especially at ages under one, when there were 15 male and 4 female deaths. Meningitis (not tubercular) was twice as fatal to males, the greatest disparity being at early ages. As with other meningeal conditions, deaths are more frequent among male infants.

Organic heart disease is the cause of more female deaths, while other circulatory diseases are less fatal to them. Fatality from bronchitis is similar for both sexes, although it is heavier at the higher ages of females. Pneumonia was the cause of 1,004 male deaths, compared with 698 female deaths. The age incidence indicates that at the early years of life, and from 45 years upwards, the male population was more heavily affected. Other respiratory diseases were more fatal to females.

Diarrhœa and enteritis were the cause of more male deaths, especially in infants. Cirrhosis of the liver caused 25 male and 9 female deaths. Deaths among infants from congenital debility

and malformation, &c., amounting to 890, are higher among males by nearly 60 per cent. Violence as a cause of death is twice as common among males, especially at ages over 25 years.

Quarterly Death-Rates.—Certain major disturbances give rise to inequalities in the death-rates from year to year. In 1926, for instance, the year opened during an epidemic of measles, while towards the end of March there occurred an outbreak of influenza and influenzal-pneumonia which caused a considerable mortality, the death-rate reaching 28·9 during the week ending 3rd April. These two incidents explain the somewhat higher rates prevailing during the first two quarters of the year, when the statistics are contrasted with those of the preceding year. During the third quarter (July, August, and September) there was a series of uniformly low weekly rates, 11·0 for the period, as against 11·3 for 1925, to which the comparatively good weather and clear atmosphere contributed. Although the winter prevalence of pneumonia commenced earlier, it was of a less severe type than usual.

Nowadays the principal causes of wide fluctations in the general death-rates from year to year are the diseases which attack the respiratory organs (pneumonia, influenza, measles, and whooping-cough).

The following tabular statement of quarterly rates shows this:—

	1924.		1925.		1926.	
1st Quarter,	21·5	Measles, whooping-cough, influenza, and pneumonia prevalent.	14·7		16·7	Measles and influenzal-pneumonia prevalent.
2nd ,,	14·7		13·1		15·1	
3rd ,,	11·1		11·3		11·0	
4th ,,	14·2		16·7	Nov. fog and low temperature. Pneumonia and measles prevalent	13·9	
Yearly Rate,	15·4		14·0		14·2	

Deaths in Hospitals, Nursing Homes, and other Institutions.—Details of the deaths in Glasgow institutions are given in Appendix Table X, which indicates that over 30 per cent. of the total deaths registered occurred in such institutions. Table XI shows the numbers of those who had no home address dying in several classes of institutions.

Uncertified Deaths.—The number of uncertified deaths has shown a gradual decrease over many years. During 1926 the uncertified deaths recorded numbered 19, as compared with 44 during 1925. The following table shows the number of these at several age-periods, together with percentages. There were no uncertified deaths recorded among legitimate children during 1926. Among illegitimate children the percentage was 1·3, compared with 3·0 for 1925. Between 1 and 5 years there was none.

GLASGOW.—UNCERTIFIED DEATHS, 1924-1926.

	Year	1924	1925	1926
Not Certified,	– 1 year,	13	18	6
	– 5 years,	2	1	—
	5 + years,	25	21	9
No Medical Attendance,	– 1 year,	2	1	1
	– 5 years,	—	—	—
	5 + years,	—	1	1
Attending Dispensaries,	– 1 year,	4	2	2
	– 5 years,	1	—	—
	5 + years,	—	—	—
Deaths of Illegitimate Children,	– 1 year,	270	233	228
	– 5 years,	115	81	97
Of these not Certified,	– 1 year,	2	7	3*
	– 5 years,	2	—	—
Percentage not Certified,	– 1 year,	·7	3·0	1·3
	– 5 years,	1·7	—	—
Deaths of Legitimate Children—				
Percentage not Certified,	– 1 year,	0·4	0·4	—
	– 5 years,	—	0·1	—

*In addition there was an uncertified death of a newly-born child found in a compartment in one of the Railway Stations for which there is no information as to legitimacy.

INFANT MORTALITY IN GLASGOW FROM 1890.

SECTION III.

MATERNITY AND CHILD WELFARE.

Owing to the widespread interest now being taken in Maternity and Child Welfare work in the City and the importance and value attaching to the schemes inaugurated under this head, the Committee on Child Welfare instructed that a booklet be prepared descriptive of the functions of this department. This was published and issued during the year: it contains an account of the growth and ramifications of the scheme of the Corporation in a more detailed manner than is possible in an Annual Report. The Child Welfare scheme is a mosaic of many activities, and the general principles on which this preventive work is based are set out in the booklet, to which the reader is referred for these important and essential particulars descriptive of the aims and objects of the scheme.

The chart facing this page shows the progress made during recent decades. It indicates that a high peak of infant mortality was maintained till about 1900, after which the rate fell from 150 to 130 per thousand births. A further fall took place after 1915, since when it has shown a general tendency to decline still further. The chart is marked by large oscillations from year to year, due to the effect which respiratory and infectious diseases have on infant life.

INFANT MORTALITY.

The deaths of infants under 1 year during 1926 numbered 2,532, compared with 2,591 in the preceding year. The death-rate per 1,000 births was 104, compared with 102 in 1925, and 119 in 1924.

The deaths under 1 year in each ward of the City during 1926, with the relative rates per thousand births, are contained in Appendix Table XII, together with a comparison of the rates during the preceding year.

The following tables show (1) the infant death-rates in Glasgow since 1891; (2) the rates in other large towns; and (3) the death-rates among legitimate and illegitimate children per 1,000 births in each group.

GLASGOW—INFANT DEATH-RATE DURING SEVERAL PERIODS.

		Per 1,000			Per 1,000
Average of 10 years,	1891-1900,	149	1922,	... ...	120
,, 10 ,,	1901-1910,	135	1923,	... ..	89
,, 5 ,,	1911-1915,	134	1924,	... ...	119
,, 5 ,,	1916-1920,	115	1925,	... ...	102
	1921,	105	1926,	... ...	104

COMPARISON WITH SEVERAL LARGE TOWNS.

	1924	1925	1926
Glasgow.	**119**	**102**	**104**
Edinburgh, ...	89	96	80
Dundee, ...	120	126	103
Aberdeen, ...	122	109	96
London, ...	69	68	64
Liverpool, ...	103	99	104
Manchester, ...	100	96	87
Birmingham, ...	83	78	73

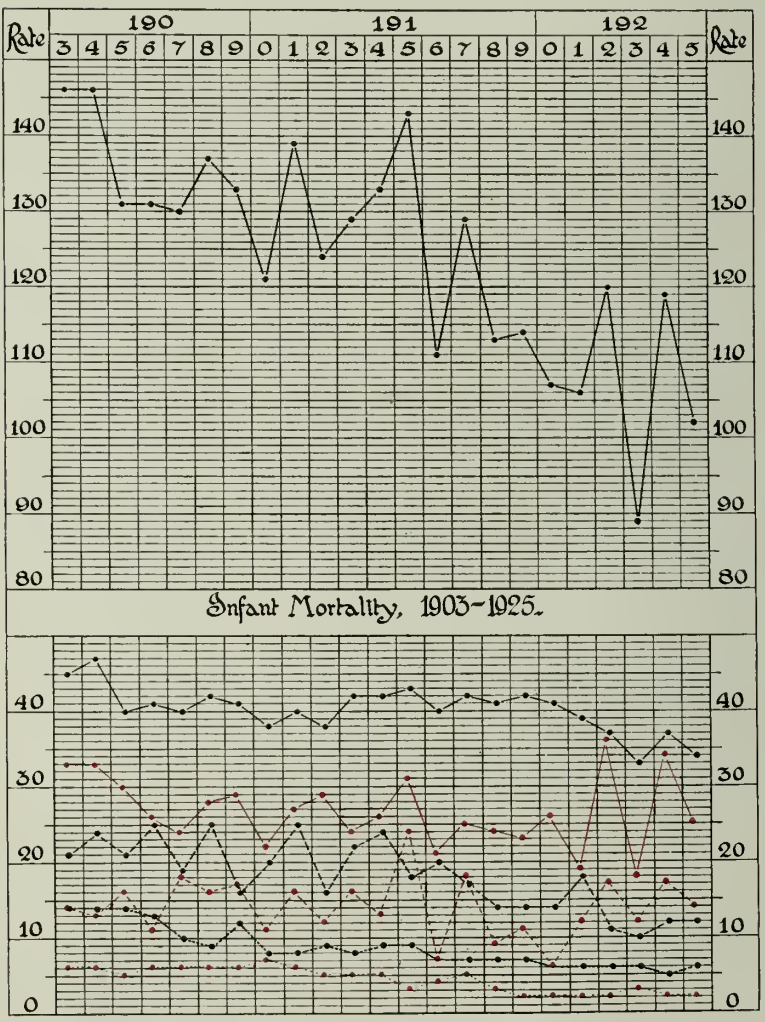
GLASGOW.—DEATH-RATE PER 1,000 LEGITIMATE AND ILLEGITIMATE BIRTHS.

	Legitimate	Illegitimate		Legitimate	Illegitimate
1899-1900, ...	144	286	1922, ...	116	181
1901-1910, ...	126	257	1923, ...	85	163
1911-1915, ...	127	217	1924, ...	115	182
1916-1920, ...	110	175	1925, ...	99	157
1921, ...	102	163	1926, ...	101	157

The infant death-rate of 104 per thousand births for the City generally is made up of different rates for different wards, and the Appendix Table XII shows that very considerable differences exist as between one ward and another. The causes entering into high rates form a very difficult study. Some indication of these was given in last year's report, where different areas of the City were contrasted. As far as these figures went they showed that the real enemies of child life are the common infectious diseases, measles and whooping-cough, along with acute pneumonia and

Glasgow.

Infant Mortality and Rates for certain Principal Diseases.



Immaturity. •——• Respiratory Diseases. •——•

Digestive Diseases. •- - - -• Infectious Diseases. •- - - -•

Nervous Diseases. •.....• Tuberculous Diseases. •.....•

bronchitis. These tend to prevail in greater magnitude and severity in the most congested City areas. Having regard to their high infectivity and the close contact of child with child, they are in the nature of things extremely difficult to control. Some light has been thrown on this problem by a recent study of the behaviour of measles during the last epidemic. It has been found, for instance, that under the close association permitted by tenement life in closely congested areas measles (with its complication of broncho-pneumonia) tends to deliver its attack on very young children, who thus contract the infection at ages when they are relatively powerless to resist it. This is undoubtedly one of the factors conducive to high mortality rates during years of measles prevalence.

Causes of Infant Mortality.—There were 1,464 deaths of male children and 1,049 deaths of female children during the year, compared with 1,537 and 1,030 respectively for the previous year.

The various causes which operate during each month of the first year of life in each sex are contained in Appendix Tables XIII and XIV. The deaths in the first month of life again form fully one-third of the total, most of these occurring in the first week.

The information given in the tables is summarised below, as rates per 1,000 births, with a comparison for previous years. The alterations which have taken place are illustrated graphically in the diagram which is here inserted. The principal groups of causes show a general tendency towards reduction, although there is considerable oscillation of the rates for respiratory and infectious diseases.

The death-rate from the immaturity group of diseases, however, has not until recently shown any tendency towards reduction. This is the largest group of the causes of infant mortality, and forms 30 to 40 per cent. of the total, according to sex.

Respiratory diseases as a cause of infant mortality come next in importance, and have proved almost as refractory to treatment as the preceding group.

Diseases of the digestive system among females were more fatal. Nervous diseases for both sexes were the same as in the previous year. The mortality from tuberculous diseases remains at a low level.

As in the case of children of higher ages, infectious diseases among children under one year are largely influenced by the prevalence of measles and whooping-cough, frequently complicated by respiratory affections.

The ratio of male to female deaths in 1926 was relatively high, although less than in 1925.

Causes of Death.	Average 1916-20	1921	1922	1923	1924	1925	1926
Males—							
I. Immaturity....	46	41	40	36	42	41	44
II. Diseases of Respiratory System,	27	22	43	20	39	30	29
III. Diseases of Digestive System,	18	21	12	12	14	15	15
IV. Diseases of Nervous System,	8	7	7	7	6	8	8
V. Tuberculous Diseases, ...	3	3	2	3	3	2	2
VI. Infectious Diseases, ...	11	14	17	13	17	13	11
VII. Suffocation, ...	—	—	1	—	—	—	—
VIII. All other causes, ...	10	9	12	8	9	9	9
All Causes, ...	123	117	134	99	130	118	118
Females—							
I. Immaturity,...	36	36	34	31	31	27	29
II. Diseases of Respiratory System,	21	16	29	16	29	20	23
III. Diseases of Digestive System,	14	15	9	8	11	10	13
IV. Diseases of Nervous System,	6	5	5	4	5	4	4
V. Tuberculous Diseases, ...	3	2	2	2	1	1	1
VI. Infectious Diseases, ...	11	12	16	12	17	14	10
VII. Suffocation, ...	—	—	1	—	1	1	1
VIII. All other causes, ...	9	6	9	6	9	6	7
All Causes, ...	100	92	105	79	104	83	88
Ratio—Males to 100 Females, ...	123	127	127	125	125	142	134

Ward Distribution.—Table XII in the Appendix shows the variation of the infant mortality rates in the Municipal Wards of the City and a comparison with the two preceding years. In 24 of the wards the rate is below 100, the least rates being recorded in Langside with 44, followed by 49 in Kelvinside and 52 in Cathcart. The highest is 163 in Mile-end, where the rates have been frequently heavy in previous years. In Provan Ward the rate was 143, compared with 94 in 1925, while 135 was the rate in Blythswood and 128 in Gorbals.

CHILD WELFARE SCHEME.

The scope and purpose of the Child Welfare Centres is fully described in the booklet referred to above. Their main function is educational, while defects are detected and simple ailments treated. Special Centres for the application of more highly skilled and specialised forms of treatment are a separate problem, which it is hoped may be arranged in co-operation with other bodies so as to avoid duplication and overlapping.

Co-operation in this direction with the Education Authority, on the lines indicated in the following memorandum, has been under consideration for some time:—

CO-OPERATION WITH EDUCATION AUTHORITY.

The circumstances which have given rise to the suggestion of greater co-operation between the Child Welfare Committee of the Corporation and the Education Authority are—

(*a*) the expansion of the Maternity and Child Welfare organisation of the Local Authority in the direction of the establishment of local clinics in suitable areas throughout the City; and

(*b*) the desire of the Education Authority to expand their special clinics and improve their system of local clinics by transferring them from school buildings to more suitable premises as opportunity offers.

Both Authorities are thus pursuing a similar policy of development as regards their clinic systems, and the time is opportune to consider whether co-operation would not be of mutual benefit, as the medical work of both bodies is in many respects essentially similar in character and aim.

Before considering how far a measure of co-operation might be effected in detail, it may be well to state certain general principles.

(1) Both Authorities are aiming at the development of their medical services along preventive lines, and also along remedial lines in so far as these are likely to result in physical fitness.

(2) While some affections are more common in children above the age of five, and are of special concern to the Education Authority, there are a number which are also met with before, as well as during, school age. This applies especially to eye and ear and skin affections, eye defects, and dental defects, all of which are capable of detection and remedy, if need be, at local clinics.

(3) The medical functions of both Authorities are thus very similar in many important details, and it would be advantageous if they could dovetail into one another wherever possible, so as to avoid duplication of facilities and services which could be provided side by side or in common. The same principles would apply not only to the work of local clinics, but also to specialist services.

(4) Co-operation for these purposes would facilitate the work of both Authorities. It might, for instance, be necessary for both Authorities to provide dental services for their respective groups of patients in the same area.

(5) It is becoming very important that the multiplication of clinics in separate buildings for special purposes, or for different groups of the population, should be avoided as much as possible. Concentration of the preventive and remedial medical services of the various bodies who perform functions of this kind should, at any rate, be attempted wherever opportunity arises.

A specific instance where co-operation might benefit both Authorities occurs in connection with the Child Welfare Centre in Hawthorn Street, Springburn, and the School Clinic in Elmvale School on the opposite side of the street.

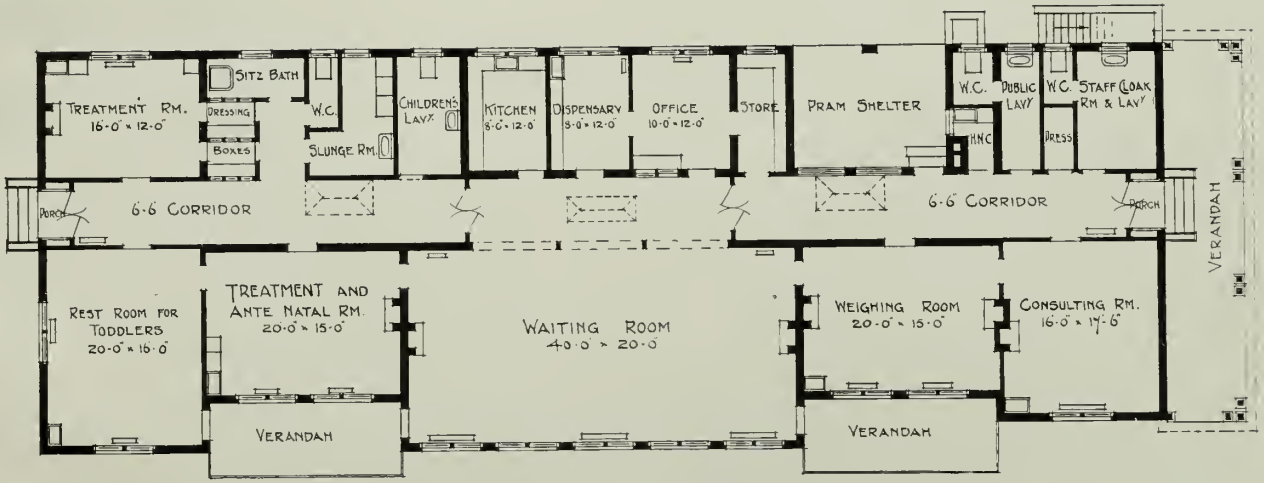
I understand that the Authority have in contemplation the provision of better clinic facilities to serve the district in which the school stands. On the other hand, the Child Welfare Centre is not fully occupied, and is suitable for many of the purposes of a school clinic, while there is vacant ground for extension of the building, should this be found necessary.

Consideration has been given to the possibility of making arrangements for holding separate or combined clinics at the Child Welfare Centre, according to a tentative programme.

At present a Child Welfare Clinic is held on Friday afternoon, but as extension will be likely it might be proposed to occupy the clinic for Child Welfare purposes on Friday forenoon also, in which case there would be overlapping as between Child Welfare and the School Ear Clinics. If, however, the numbers attending are reasonably small, the school clinic might be conducted in the toddlers' room as above, concurrently with the Child Welfare sessions.

There remains the question of refractions or eye tests, which are carried out on one or two afternoons a week in the school clinic. It is not clear at the moment how these could be fitted in as the sessions now stand. There is also the question of dental treatment, the provision of which in respect of scholars, children under five, and of women attending for ante-natal examination, would afford a useful opportunity for co-operation between the two Authorities. The existing clinic would not, therefore, adequately meet the whole services likely to be required by both bodies, and the Education Authority might consider the feasibility of adding to the accommodation available such kind as they think fit in preference to erecting a building of their own. Again, some expansion of the Child Welfare work must be kept in mind, although it is unlikely that this would seriously dislocate the school clinic to be conducted in the same building.

These considerations have been set out in some detail because they are illustrative of the principles which would apply in other areas. An opportunity for co-operation arises also in connection with the Govan Town Hall and the school services centring round Broomloan



West Govan Child Welfare Centre.

Road School. The new clinic at West Govan might also be convenient for school clinic purposes if the Education Authority think fit and the West Govan Association accede to the suggestion.

At the first meeting with the Sub-Committee of the Education Authority the general principles of co-operation and the specific suggestions made above might be discussed.

4th January, 1927.

Springburn Child Welfare Centre.—The only Child Welfare consultation hitherto provided in the north-east of the City was that situated in a Church Hall in Garngad. As that Centre is considerably removed from Springburn district, a new building has been erected in Campbell Street. This was opened on the 5th October. It is similar to that recently erected in Maryhill, and described in the report of last year.

West Govan.—To provide a more suitable Centre in the south-west district of the City, a new clinic has been erected in Arklet Road, Govan, planned to allow for reasonable expansion. A plan of this Centre is shown on the opposite page.

The West Govan Clinic has been designed, as the result of experience, to secure, as far as possible, simplicity in arrangement and ease in management. The principle of a large central well-lit and ventilated waiting-room, with easy access to the various services of the clinic, is difficult to preserve in a one-storey building. The central hall, which measures 40 feet by an average of 25 feet, is intended not only to serve as a waiting-room, but to be available for lecturing, teaching, and social purposes. It is well lit by a series of windows facing south, and, being higher than the working portions of the clinic, has additional windows which provide for cross ventilation. Opening directly on to the central waiting-room are the following:—(*a*) the weighing-room (20 feet by 15 feet), which in turn leads directly to the consulting-room (17 feet 6 inches by 16 feet); (*b*) a treatment and ante-natal examination-room (20 feet by 15 feet); (*c*) office, dispensary, and kitchen directly facing the back of the waiting-room. The principal functions of the clinic are thus centred round the main hall. Two corridors join the rear of the waiting-room, that to the east being the main entrance corridor, with lavatories and cloakrooms opening off it, that to the west giving access to the dressing-rooms, slunge, children's lavatory, toddlers' room, and auxiliary treatment-room. There are also provided a perambulator shelter behind and two covered verandahs opening off the main waiting hall.

This clinic has been erected by the Corporation at a cost of £5,700 approximately, and will be conducted and partly maintained by the West Govan Child Welfare Association.

The Centre, which was opened on 23rd November, is shown in the illustration facing the following page.

NOTIFICATION OF BIRTHS.

The number of notifications of births received during 1926 is shown in Appendix Table XV, compared with the corresponding figures for the two preceding years. As notifications include still births, the notifications are always in excess of the number of births registered. Omissions to notify births in terms of the Act average around 2½ per cent., but most of these are formally intimated after attention has been directed to the omission.

Nature of Attendance at Births. — The proportion of births medically attended has fallen from 48·6 per cent. in 1914 to 40·1 in 1925, while in 1926 the proportion was 42·9. This leaves a balance of almost 60 per cent. of births not medically attended.

Still Births.—The percentage of still births known to occur in Glasgow usually averages about 4. During 1926 the rate was only 3·7.

The percentage of still births occurring among those attended medically at home and in institutions is 5·2 for 1926, compared with 2·6 non-medically attended, but if those medically attended in institutions are excluded the former rate is reduced from 5·2 to 3·5. This larger percentage among medical cases is usually due to the fact that a doctor has been ultimately summoned in certain cases where a midwife was in the first instance employed. Among the births medically attended in institutions there were 322 still births, or 8·5 per cent. of the total.

WORK OF THE MATERNITY AND CHILD WELFARE CENTRES.

In order to accommodate the increasing numbers now attending the Child Welfare Centres to which larger numbers of toddlers are being brought, and following the opening of the new clinics in Springburn and West Govan, it became necessary during the year to rearrange the weekly time-table, which, as altered, is shown on the following page.

There are now 14 Centres at which consultations are held, or one more than last year. While Campbellfield Street was closed at the beginning of the year, the new Centre in Springburn was additional, and a consultation, formerly held by the County Authorities in Yoker, was continued by the Corporation on annexation of that district. Altogether there are 66 weekly consultations held in these Centres, 3 of which are for artificial light treatment, and 10 for ante-natal cases. At 10 of these consultations toddlers are also dealt with.

WEST GOVAN CHILD WELFARE CENTRE.

In addition, there are also the consultations held in the Royal Maternity Hospital on each week-day, the expenditure in connection with which is borne by the Corporation.

The following is the present time-table of consultations:—

LIST OF MATERNITY & CHILD WELFARE CLINICS

	9 a.m.	1.30 p.m.
Monday,	1 Maxwell St., Partick (Ante-natal).	20 Cochrane St. (Ultra-Violet Ray).
	Church Hall, Garngad Hill.	1 Maxwell Street, Partick.
	96 Sister Street (1-5 years).	96 Sister Street.
	130 Adelphi Street, S.	130 Adelphi Street, S.
	132 Weir Street.	132 Weir Street.
	2 Summerton Rd., Govan (Ante-natal).	60 Avenuepark Street.
Tuesday,	77 Port Street (1-5 years).	77 Port Street.
	Church Hall, Garngad Hill.	614 Dobbie's Loan (Ante-natal).
	60 Avenuepark Street.	96 Sister Street.
	96 Sister Street (Ante-natal).	Campbell Street, Springburn.
	Edrom Street Hall, Shettleston.	132 Weir Street.
	132 Weir Street.	Elder Park Centre (Ante-natal).
Wednesday,	20 Cochrane St. (Ultra-Violet Ray).	20 Cochrane Street.
	77 Port Street.	1 Maxwell Street, Partick.
	60 Avenuepark Street.	614 Dobbie's Loan.
	96 Sister Street (1-5 years).	130 Adelphi Street, S. (Ante-natal).
	2 Summerton Road, Govan.	96 Sister Street.
	130 Adelphi Street, S.	Campbell St., Springburn (Ante-natal).
	Edrom Street Hall, Shettleston	2 Summerton Road, Govan.
Thursday,	20 Cochrane Street (1-5 years).	1 Maxwell Street, Partick (1-5 years).
	1 Maxwell Street, Partick.	2 Summerton Road (Ante-natal).
	614 Dobbie's Loan (1-5 years).	614 Dobbie's Loan (1-5 years).
	96 Sister Street (1-5 years).	96 Sister Street.
	Edrom Street Hall, Shettleston.	130 Adelphi Street, S.
	130 Adelphi Street, S. (1-5 years).	132 Weir Street.
	132 Weir Street.	60 Avenuepark Street (Ante-natal).
Friday,	614 Dobbie's Loan (1-5 years).	20 Cochrane St. (Ultra-Violet Ray).
	Campbell Street, Springburn.	614 Dobbie's Loan.
	96 Sister Street.	96 Sister Street (Ante-natal).
	130 Adelphi Street, S. (1-5 years).	Campbell Street, Springburn.
	2 Summerton Road, Govan.	2 Summerton Road, Govan.
	Elder Park Centre.	Elder Park Centre.
	Spiers Institute, Yoker.	1 Maxwell Street, Partick.

Maternity Hospital Ante- and Post-natal Clinics—Daily, Monday to Friday, at 1.30 p.m.
Vaccination is also done at 20 Cochrane Street on Tuesdays at 12.30 p.m.

The Child Welfare staff now includes 10 lady doctors and 29 nurses.

The total number of consultations held during the year was 2,533, compared with 2,450 in 1925. This is an increase of 83, but 404 ante-natal clinics and 150 actino-therapy clinics, referred to later, are not included in the 2,533 quoted. The number attending the infant consultations last year totalled 154,284, a considerable increase on the previous year. Both primary and subsequent attendances were higher.

The following table gives the attendances at each consultation Centre during the years 1925 and 1926:—

ATTENDANCES AT INFANT CONSULTATIONS, 1926.

	No. of Consultations held.	Children – 1 Year. No. of Attendances.		Children + 1 Year. No. of Attendances.		Total No. of Attendances.		1925 Total No. of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Adelphi Street,	302	1,141	9,280	479	9,804	1,620	19,084	1,408	15,290
Campbellfield St.,[1]	1	—	27	—	33	—	60	219	3,224
Cowcaddens, -	293	1,099	7,471	505	9,924	1,604	17,395	1,563	19,438
Elderpark, -	101	370	3,209	—	—	370	3,209	332	3,351
Garngad Hill, -	137	414	3,403	164	4,992	578	8,395	456	7,554
Govan, - -	206	554	4,545	201	6,344	755	10,889	670	10,579
Sister Street, -	407	1,893	15,535	595	12,684	2,488	28,219	1,954	25,628
Maryhill, -	156	443	3,648	147	4,244	590	7,892	441	6,936
Partick, - -	204	543	4,573	187	6,049	730	10,622	647	8,333
Port Street, -	156	464	3,802	170	3,600	634	7,402	640	8,210
Shettleston, -	104	426	4,191	179	5,983	605	10,174	654	9,939
Weir Street, -	304	566	5,462	169	8,286	735	13,748	813	14,287
Cochrane Street,	104	258	1,790	106	1,922	364	3,712	293	3,424
Yoker,[2] - -	30	43	400	17	313	60	713	—	—
Springburn,[3] -	28	169	999	48	421	217	1,420	—	—
	2533,	8,383	68,335	2,967	74,599	11,350	142,934	10,090	136,193
		76,718		77,566		154,284		146,283	

(1) Closed January. (2) Transferred from County in May. (3) Opened September

The illness, &c., recorded at the consultations are here summarised:—

INFANT CONSULTATIONS.—ILLNESSES, &c., RECORDED.

	1925		1926	
	−1 Year	+1 Year	−1 Year	+1 Year
Debility and Malnutrition (including Underweight), ...	404	218	405	216
Birth Debility.	79	2	58	1
Prematurity, ...	72	4	69	—
Marasmus, ...	15	1	56	9
Anæmia, ...	—	3	—	2
Diseases of Digestive System, ...	37	13	9	7
Diseases of Respiratory System, .	2	7	13	—
Tuberculosis, ...	1	2	—	3
Syphilis, ...	1	—	—	—
Measles, ...	—	1	—	3
Whooping-Cough, ...	3	4	—	—
Rickets, ...	29	229	14	201
Others, ...	14	4	15	6
TOTAL, ...	657	488	639	448

MIDDLE EAR DISEASE.

It has been estimated that between 4 per cent. and 5 per cent. of the children attending Child Welfare consultations suffer from some degree of otorrhœa.

A detailed inquiry, commenced in August, 1925, was made with regard to all children suffering from middle ear disease who attended Centres during a period of six months. The children were examined again at the end of one year, when further notes were made. The number of cases in this series was 513.

The case-sheets contained particulars regarding (1) age at onset of disease; (2) cause of disease; (3) presence of enlarged tonsils and adenoids; (4) nature and result of treatment.

It was noted that in 48 per cent. of the cases the condition began during the first year of life (in 22 per cent. before the end of the sixth month); in 27 per cent. during the second year; and in the remaining 25 per cent. between the third and fifth years. Thus, in 53 per cent., the age of onset was between six months and two years.

In classifying the cause of disease from the records, "dentition" and "unknown" were placed together, because while some of the medical officers gave "dentition" as the cause of the ear condition, others refused to admit it as a cause, preferring to state "cause unknown." It is significant that of those cases occurring before the

end of the second year, 70 per cent. have the cause given as "dentition," "debility," or "unknown." In discussing the case-sheets with the clinical officers almost all agree that, though dentition may not be the actual cause of the otorrhœa, it frequently has a considerable influence on the occurrence and recurrence of the condition, and the fact that more than half of the cases had their onset during the period of dentition, viz., six months to two years, seems to support the view that dentition may be at least a contributory cause.

In about 19 per cent. of the cases diseases of the naso-pharynx were stated to be the cause, while in about 12 per cent. the cause was given as one of the common infectious diseases—measles, whooping-cough, scarlet fever, and diphtheria.

Middle Ear Disease—Cause and Age of Onset.

Cause of Disease.	Age of Onset.								
	6 mos.	12 mos.	2 yrs.	3 yrs.	4 yrs.	5 yrs.	5 yrs.+	Not stated.	Totals.
Dentition, Debility and Unknown,	88	98	84	17	10	5	—	14	316
Diseases of Naso-Pharynx,	18	17	23	15	16	9	1	1	100
Diseases of Respiratory System,	3	8	10	3	2	1	—	2	29
Measles,	—	8	12	13	3	2	—	—	38
Whooping-Cough,	1	2	9	2	—	1	—	1	16
Scarlet Fever,	—	—	—	3	3	—	—	—	6
Chickenpox,	—	2	—	—	—	—	—	—	2
Diphtheria,	—	—	1	—	1	—	—	—	2
Vaccination (?)	—	1	—	—	—	—	—	—	1
Syphilis (?)	1	1	1	—	—	—	—	—	3
Totals,	111	137	140	53	35	18	1	18	513

In more than half of the cases (55 per cent.) it was noted that the condition was associated with the presence of enlarged tonsils and adenoids. This is in agreement with the view of most otologists, who state that the presence of adenoids is the commonest concurrent condition, more so than measles and scarlet fever, though the last gives rise to many of the more acute cases.

The records of treatment show that one year after the investigations were begun 66 per cent. were healed, while in 21 per cent. otorrhœa still persisted. In many of the children the condition, after appearing to be cured, recurred before the end of the year. In the majority of slight cases treatment was carried out at the Child Welfare Centres, but severe cases were referred to special dispensaries for treatment of ear diseases. As it is recognised that middle ear suppuration readily tends to become chronic, depending on the severity of the condition, on the general health of the child, and on the cause, and as diseased tonsils, adenoids, and other nasal affections are known to be contributory causes, the majority of cases found to be suffering from these conditions were referred to hospitals for nose and throat treatment.

It is believed that much can be done to prevent chronic middle ear suppuration, firstly by preventing adenoids, as far as this is possible, and by removing them efficiently when they have developed; and, secondly, by having acute cases, occurring in the course of measles and scarlet fever, efficiently dealt with while in the fever hospitals, as is now done in Glasgow.

While the teaching of mothers at the Centres and in their homes in methods of nasal hygiene should contribute to the prevention of adenoids, care is taken to send children, in whom diseased tonsils or adenoids are present, to the various hospital out-patient departments for necessary treatment. There is thus, at the present time, no need for further action, as the facilities available would appear to be sufficient.

The following statement shows the Centres at which the patients were treated, and results :—

	Healed.	Ears still discharging.	Died. Removed. Condition Unknown.	Total.
Treated at Child Welfare Centres, ...	285	68	51	404
Referred to Bellahouston Dispensary, ...	14	10	3	27
,, Royal Hospital for Sick Children,	8	12	1	21
,, Ear, Nose, and Throat Hospital,	30	16	1	47
Treated elsewhere, ...	11	2	1	14
	348	108	57	513

SUPPLY OF MILK AND MEALS TO NECESSITOUS MOTHERS AND CHILDREN.

During the year supplies of milk and meals continued to be given to expectant and nursing mothers, and to children up to five years of age, under the following general conditions, viz. :—

(1) Regular attendance at a Child Welfare Centre;

(2) When the case was necessitous; and

(3) When supply of milk or meals was certified by the Medical Officer of the Centre to be required on grounds of health.

Formerly the first condition was only established when three consecutive attendances at a consultation had been made and grants were limited to a period of 28 days. With a view to reducing the number of routine attendances at the consultations, these rules were modified as from the beginning of the year to the extent that title to receive a grant of milk or meals was established after two attendances, and the period of the grant

was extended to 42 days. Except where conditions of health required a more frequent attendance, infants are not required to attend more frequently than once a fortnight and toddlers once in six weeks. These alterations have considerably simplified the clerical and other work entailed, while allowing greater latitude and promptitude in the granting of milk in clearly necessitous cases.

While compliance with the above general conditions is usually required, exception is made where a mother or child, on first attendance at an infant consultation, presents conditions of health which suggest that an immediate grant of either milk or meals may be desirable or necessary.

(a) *Fresh Milk.*—The following table shows the number of applications for milk granted during the year:—

Rate charged to Applicant	Number of Families	Number of Expectant and Nursing Mothers	Number of Children under 5 years	Total Number of Pints ordered
ORIGINAL APPLICATIONS.				
Half-Price, ...	81	41	55	4,032
Free, ...	4,376	2,289	2,674	208,446
	4,457	2,330	2,729	212,478
REPEAT APPLICATIONS.				
Half-Price, ...	537	150	639	33,138
Free, ...	33,842	10,582	38,628	2,066,820
	34,379	10,732	39,267	2,099,958
TOTALS.				
Half-Price, ...	618	191	694	37,170
Free, ...	38,218	12,871	41,302	2,275,266
	38,836	13,062	41,996	2,312,436

This table shows that 4,457 original applications were made during the year for supplies of fresh milk, covering 2,330 expectant or nursing mothers, and 2,729 children under five years of age, or, together, 5,059 individuals. Repeat applications to the number of 34,379 were received, which is equivalent to 7·7 repeats per original application. The total quantity of milk ordered was 2,312,436 pints, and the cost, approximately, £21,600.

Certificates for grants of fresh milk were given by the medical officers at the various Centres for the following reasons:—

SUMMARY OF MEDICAL CERTIFICATIONS ON APPLICATIONS FOR FRESH MILK.

Diseases	Mothers		Children		Total
	Expectant	Nursing	1 year	–5 years	
Debility, ...	1,868	792	1,245	5,491	9,396
Progressing, ...	—	—	1,996	5,895	7,891
Insufficiency of Breast Milk,	—	10,083	—	—	10,083
Child losing Weight, ...	—	—	254	1,524	1,778
Child under Weight, ...	—	—	3,588	12,807	16,395
Child's Weight stationary,...	—	—	268	1,591	1,859
Malnutrition, ...	3	—	162	346	511
Marasmus, ...	—	—	33	8	41
Debility—after—					
Influenza, ...	3	2	9	48	62
Pneumonia, ...	—	1	21	149	171
Infectious Diseases, ..	—	—	80	702	782
Other Diseases, ...	12	—	136	1,039	1,187
General Diseases—					
Anæmia, ...	148	169	12	77	406
Rickets, ...	—	—	362	4,271	4,633
Diseases of Respiratory System—					
Bronchitis, ...	8	2	50	115	175
Pneumonia, ...	—	1	15	30	46
Congestion of Lungs, ...	—	—	3	4	7
Diseases of Digestive System and Intestines—					
Dyspepsia, ...	4	—	—	—	4
Stomatitis, ...	—	—	—	1	1
Enteritis, ...	—	—	9	44	53
Tonsillitis, ...	—	—	—	1	1
All other Causes—					
Albuminuria, ...	109	—	—	—	109
Others, ...	—	—	1	28	29
Totals, ...	2,155	11,050	8,244	34,171	55,620

(b) *Dried Milk.*—During the year supplies of dried milk were also given in suitable cases, the brands in use being "Glaxo," "Dorsella," and "Lacta," the number of applications received being as follows:—

	Number of Families	Number of Expectant and Nursing Mothers	Number of Children under five years	Number of Packets Ordered
Original Applications,	334	17	319	386
Repeat ,,	3,855	106	2,831	5,803
Total, ...	4,189	123	3,150	6,189

While the same scale of "necessitousness" is applied to applications for dried milk as to applications for fresh milk, the conditions of grant are somewhat different, for, while grants of fresh milk are refused to families whose income is over the scale, supplies of dried milk may be given at the wholesale rate. The following summary shows the number of packets and the amount recovered, as well as the loss falling upon the Corporation, for the supplies of dried milk issued under these conditions:—

Price per Packet	Number of Packets Issued	Cost to Corporation	Amount Recovered	Gain or Loss to Corporation
Full Price—				
1s. 6d., - -	3,799	£253 5 4	£284 18 6	+ £31 13 2
Part Price—				
1s., - - -	64	4 5 4	3 4 0	- 1 1 4
Free, - - -	2,326	155 1 4	—	- 155 1 4
	6,189	£412 12 0	£288 2 6	- £124 9 6

In all, 6,189 packets were distributed under the scheme, of which 3,799 were charged at full price, 64 at part price, while 2,326 were given free, the net loss to the Corporation being £124 9s. 6d.

The reasons given in the medical certificate forms are shown in the following summary:—

SUMMARY OF MEDICAL CERTIFICATIONS ON APPLICATIONS FOR DRIED MILK.

Diseases	Mothers		Children		Total
	Expectant	Nursing	1 Year	5 Years	
Debility, ...	—	1	71	1	73
Gaining, ...	—	—	91	2	93
Insufficiency of Breast Milk,	—	17	—	—	17
Losing Weight, ...	—	—	6	—	6
Under Weight, ...	—	—	187	2	189
Weight Stationary, ...	—	—	11	—	11
Malnutrition, ...	—	—	8	—	8
Marasmus, ...	—	—	3	—	3
Debility after Pneumonia and other diseases, ...	—	—	7	—	7
Infectious Diseases, ...	—	—	2	—	2
Rickets, ...	—	—	3	—	3
Bronchitis, ...	—	—	4	—	4
Totals, ...	—	18	393	5	416

Economic Conditions. — The following summary shows the conditions under which applications came within the scale of allowances :—

Applications Refused—		
Income over scale, ...	285	
Refused to pay half-price, ...	1	
		286
Applications granted at half-price, ...		900
Applications granted free—		
On Unemployed Relief Scale, ...	36,608	
Illegitimacy, ...	384	
Employed full-time. but under Scale, ...	1,946	
Waiting L.B. and Parish, ...	771	
Employed part-time, ...	1,147	
Pension only, ...	470	
Bureau only, ...	9,054	
Deserted Wife, ...	243	
Health Insurance, ...	1,596	
Compensation, ...	143	
Labour Bureau and Pension, ...	756	
Labour Bureau and room let, ...	955	
No Income, ...	402	
Strike pay, ...	99	
		54,574
		55,760

Supply of Meals. — The arrangement with the Education Authority for the supply through their feeding Centres of meals for mothers and children, granted under the Child Welfare Scheme, was continued during the year, and the following table shows the numbers supplied from each of these Centres :—

Centre	Children (3-5 Years)	Infants (9 Months-3 Years)	Expectant and Nursing Mothers	Total
Hayfield School, ...	3,004	3,428	3,651	10,083
Kinning Park School, ...	8,347	9,448	6.508	24,303
Broomloan School, ...	2,107	2,166	1,719	5,992
Bishop Street School, ...	1,037	2,171	1,670	4,878
Greenside School, ...	591	613	453	1,657
Rosemount School, ...	2,890	3,925	3,548	10,363
Milton Street School, ...	8,881	10,757	6,231	25,869
Dovehill School, ...	879	943	409	2,231
Keppochhill School, ...	1,038	1,066	707	2,811
Eastpark School, ...	2,218	2,531	1,925	6,674
Anderson Street School, ...	262	114	95	471
All Centres, ...	31,254	37,162	26,916	95,332

The charge by the Education Authority is 3½d. per meal, and the total cost for the year worked out at £1,390 5s. 2d.

An inquiry was made into the quantity, quality, and calorie value of the meals supplied. As these dinners, however, now form only a relatively small part in the scheme, the report is not here included.

SEWING, &c., CLASSES.

Classes for cookery and sewing and social evenings for mothers were arranged at various Centres during the winter months, as shown below:—

CLASSES IN ASSOCIATION WITH CHILD WELFARE.—WINTER, 1926-27.

Centre.	Nature of Class.	Period.	Day and Hours.	Average Attendance.
COWCADDENS -	Sewing	Nov. to Mar.	Mon., 7 p.m.	40
BRIDGETON -	Sewing	Oct. to Mar.	Wed., 7 p.m.	45
HUTCHESONTOWN	Sewing (Conducted by Gorbals Branch G.I.H.V.A.)	Oct. to April	Tues., 2 p.m.	24
PARTICK - -	Sewing (Conducted by Partick Branch G.I.H.V.A.)	Oct. to Mar.	Tues., 2.30 p.m.	20
GOVAN - -	Sewing (Conducted by Govan East Branch G.I.H.V.A.)	Oct. to Mar.	Thurs., 7 p.m.	30-40
ELDER PARK -	Sewing and Lectures (Conducted by Govan West Branch G.I.H.V.A.)	Oct. to Mar.	Wed., 7 p.m.	48
PORT STREET -	Knitting (conducted by Anderston Branch G.I.H.V.A)	Sept. to June	Thurs., 2.30 p.m.	4

ANTE-NATAL CONSULTATIONS.

Glasgow Royal Maternity Hospital.—The total number of cases attending the ante-natal dispensary for the first time increased from 3,878 during 1925 to 4,266 in 1926, while the total attendances during the respective years were 8,205 and 10,364. During 1926, 2,661 cases were treated to a termination in delivery, of which 841 were attended in their own homes.

The number admitted to the ante-natal wards during 1926 was 866, compared with 730 in 1925,

At the infant consultations held at the Maternity Hospital there were 7,053 attendances, as compared with 6,394 during the previous year. The first attendances numbered 1,167.

	1924	1925	1926
ANTE-NATAL DISPENSARY—			
Number attending for first time, ...	2,957	3,878	4,266
Total attendances, ...	6,572	8,205	10,364
Number treated to a termination in delivery, ..	1,735	2,129	2,661
Number sent to Hospital from Dispensary—			
(*a*) For confinement, ...	1,100	1,458	1,820
(*b*) ,, treatment, ...	311	231	279
(*c*) ,, miscarriage, ...	88	91	107
ANTE-NATAL WARDS—			
Average number under treatment, ...	19	22	24
Number admitted, ...	706	730	866
Total days, ...	6,984	7,933	8,838
Condition on dismissal :—			
(1) Recovered, ...	137	123	202
(2) Improved.	168	142	180
(3) Confinement completed, ...	340	437	440
(4) Died, ...	2	1	1
(5) No change, ...	51	31	42
INFANT CONSULTATION—			
First Attendances, ...	1,216	1,095	1,167
Subsequent Attendances, ...	5,292	5,299	5,886
Total, ...	6,508	6,394	7,053

During the year an ante-natal clinic was begun in the new Centre erected in Maryhill. A number of the cases formerly attending Cowcaddens clinic were transferred to Maryhill, as being more conveniently situated to their home address. Ante-natal consultations are now held at six Centres.

At these Centres consultations are held at least weekly. At the 404 sessions 2,113 mothers attended during the year, compared with 988 for the preceding year. Subsequent attendances numbered 6,192, making a total of 8,305. The

number of consultations and attendances at each Centre is shown in the following tables:—

ATTENDANCES AT ANTE-NATAL CLINICS, 1926.

	No. of Clinic Sessions.	No. of Attendances		
		Primary.	Subsequent.	Total.
Partick, ...	49	265	860	1,125
Cowcaddens, ...	66	285	1,044	1,329
Sister Street, ...	102	373	1,302	1,675
Hutchesontown, ...	52	282	775	1,057
Govan, ...	92	799	1,578	2,377
Maryhill, ...	43	140	602	742
	404	2,144	6,161	8,305

The following tables show (1) the age of mothers who attended, and (2) the conditions requiring attention which were found:—

Ages of Mothers	Sister Street	Cow-caddens	Govan	Partick	Maryhill	Hutcheson-town	Total
–20	10	21	31	10	2	8	82
–25	53	74	206	51	31	63	478
–30	112	83	265	78	30	82	650
–35	98	55	164	64	39	83	503
–40	74	37	83	45	23	27	289
–45	20	6	21	11	11	7	76
45+	—	2	4	2	—	—	8
Not Pregnant, ...	6	7	25	4	4	12	58
	373	285	799	265	140	282	2,144
Conditions Found							
Venereal Disease, ...	9	11	18	10	11	4	63
Varicose Veins, ...	56	70	205	26	39	15	411
General Debility, ...	103	80	296	102	41	55	677
Cardiac Disease, ...	23	20	42	3	4	13	105
Hyperemesis Gravidarum,	3	3	2	2	1	—	11
Severe Constipation,	37	64	71	7	9	24	212
Other Alimentary Conditions, ...	45	—	143	30	10	23	251
Dentition (Bad), ...	93	65	414	17	25	59	673
Contracted Pelvis, ...	15	50	46	14	10	10	145
Kidney Disease (Albuminuria), ...	49	28	66	47	24	33	247
Respiratory Disease, ...	57	32	93	19	11	23	235
Hæmorrhage, ...	6	4	25	4	2	7	48
No apparent disease, ...	48	26	80	17	8	67	246
Other conditions, ...	16	38	46	11	5	19	135
	560	491	1,547	309	200	352	3,459

The conditions found on medical examination are enumerated in the above statement, but as in many cases two or three causes of illness were present, the total number of conditions is much in excess of the number of mothers. The most frequent conditions requiring attention were those of the alimentary system (including constipation), general debility, anæmia, varicose veins, albuminuria, &c.

About 15 per cent. were primiparæ, as shown in the following summary:—

	Sister Street	Cowcaddens	Govan	Partick	Maryhill	Hutchesontown	Total
Primiparae, ...	40	33	150	30	16	35	304
Multiparae, ...	327	245	624	231	120	235	1,782
Total,	367	278	774	261	136	270	2,086

The results, so far as known, as to whether pregnancy resulted at full term, prematurely, &c., are here given, together with the number of still births:—

	Sister Street	Cowcaddens	Govan	Partick	Maryhill	Hutchesontown	Total
PREVIOUS YEAR'S CASES TERMINATED IN 1926:—							
Alive, ...	76	12	81	26	—	25	220
Still Births, ...	1	1	5	—	—	3	10
Full-term, ...	76	13	84	26	—	26	225
Premature, ...	1	—	2	—	—	2	5
Not pregnant, ...	—	—	1	—	—	—	1
Abortion or Miscarriage. ...	—	—	1	—	—	1	2
	77	13	88	26	—	29	233
1926 Cases:—							
Alive.	255	195	534	162	82	178	1,406
Still Births, ...	12	6	23	8	3	7	59
Full-term, ...	250	194	533	165	82	179	1,403
Premature, ...	17	7	24	5	3	6	62
Not pregnant, ...	6	7	25	4	4	12	58
Abortion or Miscarriage, ...	—	4	12	1	2	1	20
Left district, ...	—	—	—	—	1	3	4
Not terminated, ...	100	73	205	90	48	81	597
	373	285	799	265	140	282	2,144

The total number of still births (69) occurring among the pregnancies included in this analysis represents a rate of 4·1 per cent., which may be compared with the average of 3·7 per cent. for the City generally. The percentage of still births among cases attending during the previous year was 3·3.

A similar comparison as to whether the births occurred at full time or otherwise shows that during 1926 the premature births formed about 4·0 per cent. of the total, as compared with 3·4 per cent. for the previous year.

The month at which the first attendance was made at the clinic is given below, and shows that, although the majority came during the seventh month, almost one-half of the total attended at an earlier period:—

Month of Attendance	Sister Street	Cowcaddens	Govan	Partick	Maryhill	Hutchesontown	Total
1	3	—	7	—	1	4	15
2	17	7	16	8	8	11	67
3	18	25	33	10	6	13	105
4	16	30	61	14	11	21	153
5	56	36	92	25	16	34	259
6	90	78	206	46	21	41	482
7	96	53	164	68	36	73	490
8	56	40	148	54	25	46	369
9	15	9	47	36	12	27	146
Not pregnant, ...	6	7	25	4	4	12	58
	373	285	799	265	140	282	2,144

MATERNAL DEATHS.

The maternal death-rate still remains uninfluenced, although it is being attacked from several angles, such as control of midwives under the Midwives (Scotland) Act, 1915, which provides for medical assistance in emergencies, the notification and treatment of puerperal fever, and above all the extension of facilities for and appreciation of the value of ante-natal examination and treatment. Reference to the paragraph on this subject will reveal the rapidly increasing scope of this important work in the City.

The following table shows the maternal deaths in Glasgow during 1925 from various causes, and the rates per thousand births for that year, as compared with rates of previous years and a comparison of certain rates for Scotland:—

STATEMENT SHOWING MATERNAL DEATHS AND RATE PER 1,000 BIRTHS IN GLASGOW, IN THE YEARS 1921-1925.

	1921 Rate	1922 Rate	1923 Rate	1924 Rate	1925 Deaths	1925 Rate	1925 Scotland Rate
Abortion Miscarriage, - -	·30	·64	·49	·32	10	·39	·37
Uncontrollable Vomiting, - -	·13	·14	·07	·20	12	·47	·30
Ectopic Gestation, - - -	·20	·11	·11	·16	7	·28	·13
Other Diseases and Accidents of Pregnancy, - - - -	·24	·32	·22	·39	9	·35	·22
Puerperal Hæmorrhage, - -	·87	·88	·79	·39	25	·98	·81
Other Accidents of Parturition, -	·54	·60	·75	·51	17	·67	·60
Puerperal Sepsis, - - -	2·32	3·00	2·55	2·21	59	2·32	1·64
Phlegmasia Alba Dolens, Embolism,	·13	·28	·15	·04	6	·24	·44
Albuminuria of Pregnancy, Eclampsia, - - - -	·87	·78	1·31	·95	29	1·14	1·01
Other Diseases of Puerperium, -	·77	·81	·64	·67	18	·71	·60
Puerperal Diseases of Breast, -	—	·04	—	—	2	·08	·03
Totals—Glasgow, - -	6·39	7·60	7·08	5·84	194	7·63	—
, Scotland, - -	6·38	6·60	6·42	5·82	—	—	6·16

ARTIFICIAL LIGHT TREATMENT.

In the following memorandum Dr. E. D. Chalmers Smith describes the work and results obtained during the year at the Actino-Therapy Clinic held in the Sanitary Chambers:—

Treatment of children under five years of age by exposure to ultra-violet radiation, begun in May, 1925, has continued during 1926.

Clinics are held three times weekly, and the attendances average approximately 70 at each session, and there is now a waiting list. It has been found unadvisable to prolong sessions beyond 2 to 2½ hours.

Apparatus.—In addition to the four 25-ampere carbon arc lamps on 250 volts, which have been in use since May, 1925, a quartz mercury vapour lamp (K.B.B.), of atmospheric type, was installed in September, 1926. This lamp has a wall attachment, and the burner, fitted with an adjustable hood, can be raised or lowered as desired. The children are exposed to the rays of this lamp in a recumbent or sitting position, at a distance of 3 feet.

Patients recline on a circular-padded table, which is in position below the lamp, and which is made to revolve slowly during irradiation. The head of the child is to the circumference of the table, which has a slightly raised edge, the object being to produce a slight curve to the lamp, and the feet are to the centre.

In this way the lower and least sensitive parts of the body receive the more direct, and the upper parts the more oblique, rays of the lamp, especially desirable in the initial stages of irradiation.

The position of the child can, of course, be varied, so as to bring any part of the body desired into the direct rays.

Methods of Treatment.—Since the installation of the two mercury vapour lamps, irradiation has proceeded in groups—

(1) Irradiation by exposure to Q.M.V. only;

(2) Irradiation by exposure to carbon arc only;

(3) Irradiation by exposure to carbon arc and Q.M.V. alternately; and

(4) Irradiation by exposure to carbon arc, followed immediately by Q.M.V. lamp.

A series of children in the fourth group have recently been given three to four successive exposures to the front surface of the body only, followed by three to four successive exposures to the back surface only.

This is done (1) in order to endeavour to compare the possible erythema produced on the front surface first exposed with the back surface not yet exposed, and *vice versa;* and (2) in order to allow the skin of the surface first exposed to regain its light sensitiveness before again exposing it to the action of the rays, and *vice versa.* This interval is usually approximately ten days. In the estimation of erythema produced, bands with circular openings are also used.

As a matter of fact, however, the erythema produced in the children during the initial stages of irradiation is practically nil. Later, as the exposure time increases, slight erythema usually occurs. Erythema, therefore, in these children cannot be taken as an indication of dosage. This is important, because a very definite clinical response follows minute initial exposures, and these fall far short of producing any visible erythema, as usually understood.

The routine methods of treatment otherwise remain the same as carried out during the year 1925.

The tendency has been to reduce the initial exposure time, owing to the definite clinical response obtained in a number of cases by such a minute exposure. This is made an initial test dose, and the result observed, observation being continued throughout the course, and timing regulated accordingly. As indicated in the report for 1925, the cases classify themselves, according to the rate of response, into—

(1) Immediate or rapid cases;

(2) Gradual cases; and

(3) Slow cases.

The period of duration of treatment, therefore, and the regulation of exposure time will depend largely on the type of case.

Taking 100 consecutive cases which, with one or two exceptions, were exposed to the carbon arc lamp only, the initial exposures then varying from 1 to 6 minutes, at a distance of 3 feet, the response was found to be immediate, *i.e.*, following the first exposure, in 53 cases.

This response was quite definite but obviously difficult to measure, and is observed, as a normal, at the first interview following exposure in a changed facial and general aspect; a placidity and contented look, plus an alertness, a slightly better colour and contour, and an absence of strain and sagging in the facial muscles. Added to this, the mother constantly states that sleep, activity, and appetite are improved. These symptoms may occur singly or are grouped; out of the 53 who gave this definite response an increase in sleep was the chief symptom noted.

In 2 cases restlessness and sleeplessness were the immediate response, and are taken to indicate an overdose in these instances. An exaggerated response in the presense of a catarrhal condition is also observed in the exacerbation of a diarrhœa. This also occurs in the bronchial catarrh common in rachitic and debilitated children. An exaggerated response in muscular activity is also manifested occasionally during the day following that of exposure.

This often delights the parents of a formerly listless and inert child, but a more gradual increase in activity is desirable, and is less likely to lead to an initial loss of weight, which often follows initial exposures. Taken as a whole, these symptoms and their exaggerations appear to point to the stimulating effect on metabolic processes of even minute doses of ultra-violet rays. Now these symptoms are seldom met with, as dosage at the beginning of radiation is being lessened.

At intervals, however, during a course a child may display an increase of sensitiveness, and give a response of increased nervous irritability, or in other ways manifest transient intolerance. With a lessening of the dose and a more gradual increase of the dosage this may disappear, or it may indicate the onset of an exanthem, or other acute illness. As indicated in a previous report, exacerbation of quiescent condition may occur as the apparent result of an overdose, whereas, if more gradually increased in dosage, ultra-violet radiation has led to the apparent arrest or cure of these same conditions, *e.g.*, adenitis, otorrhœas, bronchial and gastro-intestinal catarrhs.

Normally, nervous stability is increased, and a sense of well-being is evinced in a more friendly and sociable attitude of the child to its environment; sleep, appetite, colour, activity, and muscular tone improve; skin improves in texture and in subcutaneous resistance, whilst body weight and height increase, especially when markedly below normal.

Skin Conditions.—Cases of impetigo and eczema, chiefly capitis, intertrigo, furunculosis, and septic lesions (*e.g.*, cuts and abrasions) occur frequently. Minor scalds and burns are also common. These conditions quicky clear up, while the general condition improves concurrently. These children have general and local irradiation by the more bactericidal rays of the Q.M.V. lamp. Applicators are not used, no need having yet arisen for their use. The lesion is merely exposed at a lessened distance from the lamp.

Bone Changes in Rachitic Children.—In addition to the general improvement above described as taking place in rachitic and debilitated children, improvement in the structure of bone is definite. X-ray examinations of bone structure continue to be conducted by Dr. Henderson at the X-ray Department, Ruchill Hospital. During 1926, 58 cases have been examined, many of them repeatedly.

Many of these now show practically normal bony structure; in some the improvement in structure has been more gradual, necessitating repeat courses of radiation. Where attendance is satisfactory, decided improvement has always taken place, and progress is maintained in the intervals between examinations.

Rachitic deformity is decidedly lessened as a result of radiation, epiphyses diminish in size, the wide fontanelle closes, and tibial and abnormal spinal curves tend to straighten, whilst the wobbling gait almost disappears.

When a child shows marked deformity, and is over the age of 2½ years, some improvement takes place, but the deformity tends to persist. Hence the need for early treatment, where a diagnosis of rachitis or its possibility is made.

Blood Changes.—Estimations of blood changes have been made by the Corporation Bacteriologist, Dr. Buchanan. The constant change observed is the rise of hæmoglobin content of the blood. There is also a rise in the number of red cells, and in the number of leucocytes. In one case of well-marked anæmia the rise in hæmoglobin was from 25 per cent. to its present content of 75 per cent.

Weight and Height.—In an endeavour to obtain some measurable comparison, 20 children from the above 100 were compared with 20 children of the same age, each over the same period, say July-September, 1926, who had been in attendance at a Child Welfare Centre. The period averaged two months, during which time an average of 20 exposures was given to the 20 attending for ultra-violet radiation.

	Average weight at beginning lbs. oz.	Average weight 2 mths. later lbs. oz.	Average differ-ence lbs. oz.	Average height at beginning inches	Average height 2 mths. later inches	Average differ-ence inches
20 "clinic" children, ...	21-5	23-4	1-15	30·4	31·1	·7
20 "light" children, ...	19-15	22-9	2-10	28·2	29·8	1·6

The gain in the case of the "light" children is, therefore, greater in weight and height for the period of treatment. Progress after cessation of treatment, in weight and height gain, is frequently even more marked than during the course.

Children are sent by the medical officers at the clinics for treatment by ultra-violet radiation. They are, as elsewhere indicated, those who are not thriving, have little recuperative power, and very frequently those who have been losing weight, or whose weight has been stationary for several months prior to irradiation.

Following up of cases is undertaken to a considerable extent, and in no case has any injurious after-effect been observed as a result of treatment by ultra-violet radiation. Progress is usually well maintained.

Cases are requested to report two months after cessation of treatment, so that they they may be kept under observation at the actino-therapy clinic. They are also, at the clinics, under the observation of the medical officers in charge there, so that any retrogression would come under their observation also.

RECORD OF ATTENDANCES AND CONSULTATIONS DURING 1926.

	Number of Attendances.		
	Primary.	Subsequent.	Total.
Children, −1 year,*	103	749	852
,, +1 year,*	537	7,688	8,225
Mothers, ...	14	95	109
Total, ...	654	8,532	9,186

* At First Visit.

AGES OF CHILDREN ATTENDING—		
−1 year, ...	32	
−2 years, ...	216	
−3 ,, ...	188	
−4 ,, ...	109	
−5 ,, ...	95	
		640
SEX—		
Male, ...	305	
Female, ...	335	
		640
NUMBER OF CONSULTATIONS, ...		160

Reasons for Treatment.

Children—			
Rickets.	1. Prophylaxis,	19	
	2. Early or slight,	118	
	3. Moderate,	287	
	4. Marked deformity,	74	
			498
	Of these 498,		
	Rickets *c.* Tetany,	24	
	Rickets *p.* Inf. Disease,	140	
Debility *post* Infectious Disease,			52
Debility *post* Polio-myelitis,			6
Malnutrition,			63
Mentally Defective (2 mongols),			6
Skin conditions (receiving local in addition to general irradiation, eczema capitis, impetigo, furunculosis, intertrigo).			9
Asthma,			1
Anæmia (hæmoglobin 25 per cent.),			1
Adenitis (not T.B.),			4
			640
Mothers—			
Pregnancy, with insomnia and nervous instability,			6
Pregnancy, with debility,			4
Pregnancy, with chronic bronchitis,			1
Nursing, with insomnia and nervous instability,			2
Anæmia *post* parturition, with nervous instability (child S.B.),			1
			14

Arrangements are in progress for adding an installation at Govan Town Hall.

INFANT VISITATION.

Under the scheme of infant visitation every birth is visited if the notification does not state that a medical practitioner has been in attendance, and the following table shows the record of those visited, together with certain information obtained:—

	1924	1925	1926
Inquiry cards returned, ...	19,243	18,927	18,956
Full information obtained, ...	18,144	17,844	17,938
Doctor found in attendance,	42	43	41
Wrong addresses, ...	1	—	—
Others, ...	1,056	1,040	977
Inquiry cards issued, ...	19,102	19,240	18,530
Of those for whom full information was obtained—			
Legitimate, ...	16,971	17,077	16,546
Illegitimate, ...	1,069	1,044	994
Born at full term, ...	17,152	17,327	16,676
Premature births, ...	888	794	864

	1924	1925	1926
Condition of Infant at Birth—			
Well nourished, ...	14,556	14,825	14,353
Fairly nourished, ...	1,922	1.875	1,836
Badly nourished, ...	832	710	727
Still-born, ...	730	711	624
Nature of Feeding at First Visit—			
Breast, ...	14,640	14.668	14,415
Artificial, ...	1,441	1,542	1,462
Breast and Artificial, ...	570	593	465
Still-born, ...	730	711	624
Dead at First Visit, ...	659	594	574
Adopted, ...	—	13	—

In addition to home visitation, the nurses attend the Child Welfare Consultations in their own districts. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment, and of following up the case afterwards to see that the treatment recommended is carried out.

The following series of summaries indicate the number of first and revisits overtaken, together with a record of conditions found:—

FIRST VISITS.

	1924	1925	1926
Infants visited under 1 year of age,	16,586	16,343	16,519
Infants visited over 1 year of age,	—	—	—
Removed and new address not traced,	409	387	459
In hospital or nursery, ...	130	101	100
Dead, ...	666	640	585
Refused admittance, ...	15	6	3
Doctor in attendance, ...	42	50	53
Information refused, ...	21	25	12
Still-born, ...	752	700	633
Visits unnecessary, ...	387	416	298
Adopted, ...	61	60	52
Nursed out, ...	9	19	17
	19,078	18,747	18,731

REVISITS.

	1924	1925	1926
Infants visited under 1 year of age,	1,438	1,164	1,345
Infants visited over 1 year of age,	2,063	1,715	2,428
	3,501	2,879	3,773
Removed and new address not traced,	656	468	656
Out at time of visit, ...	242	157	114
In hospital or nursery, ...	29	18	21
Dead, ...	559	422	526
Adopted, ...	23	16	11
Refused admittance, ...	10	3	—
Doctor in attendance, ...	—	2	1
Visits unnecessary, ...	3	2	1
Nursed out, ...	9	8	4
Information refused, ...	—	1	—
Visits resented, ...	—	3	—
	5,032	3,979	5,107

The children found alive on the occasion of the first visit by the Health Visitor are classified in the following table under three groups:—

	Well	Fair	Bad	Total
1924, ...	14,331	2,083	172	16,586
1925, ...	14,201	2,008	134	16,343
1926, ...	14,427	1,956	136	16,519

Generally speaking, those classified as "well" on the occasion of the first visit were not revisited. The following table is a summary of results found at final visit:—

REVISITS.

	Still Good	Much Improved	Slightly Improved	No Improvement	Worse	Total
1924, ...	2,594	855	30	22	—	3,501
1925, ...	2,065	783	21	10	—	2,879
1926, ...	2,896	834	27	16	—	3,773

GLASGOW INFANT HEALTH VISITORS' ASSOCIATION.

Working in association with the Public Health Department is the Glasgow Infant Health Visitors' Association, to whom are reported children whom it is desirable to keep under observation during a longer period than is possible by the official visitors. The number of visitors fluctuates around 300.

As the period of visitation generally extends over the first twelve months of life, a complete year must elapse before the results of the visitation can be summarised.

The following is a summary of the results for the years 1923-1925:—

Year	Year old	Removed	Dead	Ceased to be Visited	Visits Unnecessary	No Information	Visits Resented	No Visitor	Total
1923	1,686	288	199	26	17	2	3	—	2,221
1924	1,932	266	182	26	34	4	4	1	2,449
1925	2,259	242	224	26	18	6	4	2	2,781

SCHEME OF DOMESTIC HELPS.

The scheme started on 22nd November, 1924, and up till the end of December, 1925, only 17 persons had taken advantage of the service provided. During 1926, 101 domestic helps were employed, and there is now a steady demand for two or three every week. These numbers only refer to the cases that have been paid through this office, but as many more have been supplied to persons who have made direct arrangements for payment. A number of doctors inquire for someone to sit at night with a case that does not actually require a nurse, and if there is a suitable woman unemployed the request is passed on to her.

It would appear that the scheme of Home Helps is now fairly under weigh. For various reasons its development has been slow, as it has had to contend with a degree of prejudice. Further, as a social custom it is an innovation. Now that the barriers are breaking down further development is likely to take place.

Payment is always made in advance, and during 1926, 107 mothers paid the following amounts for the services of a "help":—

Cases. 1925.	Cases. 1926.	Number of Days Attended.	Rate per Day.	Amount Paid by Patient.
9	54	720	1/-	£36 0 0
2	22	400	1/6	30 0 0
1	14	145	2/-	14 10 0
2	7	81	2/6	10 2 6
1	5	22	3/-	3 6 0
1	2	18	3/6	3 3 0
—	1	8	4/6	1 16 0
1	2	13	5/-	3 5 0
17	107	1,407		£102 2 6

The "help" is remunerated at the rate of 5s. per day, so that the balance falling to be met by the Corporation was £249 12s. 6d.

MATERNITY BUNDLES.

The scheme for supplying maternity bundles in necessitous cases was continued during the year, the materials, as explained in the report of last year, being supplied by the Corporation. In 1926 bundles to the number of 116 were issued, and although an endeavour was made to recover if possible the cost of material, estimated about 9s. each, by instalments if necessary, only £5 13s. has been paid, or an average of less than 1s. each.

Apart from this, quite a number of gifts were received from interested ladies and sewing classes throughout the year, and these were distributed to necessitous cases in attendance at the Centres to which the gifts had been forwarded by the donors.

DAY NURSERIES.

Including the Phœnix Park Kindergarten, there are, as in previous years, six Centres with nursery accommodation. The total attendances of children at these Centres during 1926 was 38,620, in comparison with 36,092 during the previous year.

The following figures show the number of attendances, &c., at each Centre during the year:—

Nursery	Number of Days open	Total Attendances during the year	Average	Maximum number in one day
Bridgeton, ...	255	8,018	31	40
Cowcaddens, ...	253	6,553	26	32
Phœnix Park Kindergarten,	188	4,912	26	31
Milton, ...	234	7,169	31	39
Hutchesontown, ...	254	7,070	28	36
Kingston, ...	222	4,898	22	28

Cowcaddens Nursery Play Centre for ex-Nursery Children.—This class, which is purely recreative, was started two years ago with a view to keeping in touch (for a year or two at least) with children who have left the nursery and are now at school. They attend every Wednesday evening after the nursery day is over from 6 p.m. till 7 p.m., and have games, singing, story-telling, &c. The nursery staff remains on duty for this extra hour. As the boys and girls become older an endeavour is made, as far as possible, to get them drafted into various juvenile organisations in the district, such as Girl Guides, Girls' Guildry, Y.W.C.A. Clubs, Boy Scouts, Boys' Brigade, Boys' Clubs, &c. The average attendance was 25, and the ages range from five years to eight years.

JUVENILE UNEMPLOYMENT CLASSES, &c.

The arrangement whereby girls from the Juvenile Unemployment Classes attend at certain of the Day Nurseries for training purposes was continued during the year. Each girl receives training in the general care of infants, and in laundry and kitchen work, over a period of one month; and the results of training, as furnished by the reports of the matrons, are shown below:—

Training Completed—		
Work Satisfactory, ...	109	
Work Unsatisfactory, ...	7	
		116
Training not Completed—		
Left to take up employment, ...	32	
Attained 18 years and ceased to attend Juvenile Unemployment Classes, ...	3	
Illness, ...	5	
Other reasons (mainly unsuitability for the work). ...	17	
		57
		173

After completion of their period of training one girl was employed as a maid at Cowcaddens Child Welfare Centre, and another as a maid at Mount Blow Country Home. Other two are leaving to take up work as domestic servants.

Training was also given at the Day Nurseries to 21 pupils of the College of Domestic Science.

COUNTRY HOMES.

No alteration has taken place in the Country Home accommodation during the year, while the arrangement begun in 1925 for isolating children in South York Street Reception House for observation for infectious disease prior to admission was continued throughout the year.

This latter procedure has not, however, wholly eliminated the difficulty, owing to other possible sources of infection occurring at the Country Homes. One of the most frequent sources of trouble is the occurrence of throat conditions, from which sometimes a diphtheritic organism is recovered, as happened on one or two occasions during the year.

The following analysis shows that 431 children were admitted to the three Country Homes during the year, the two principal reasons for admission being rickets and malnutrition:—

	Mount Vernon	Scots-toun	Mount Blow	Total
Rickets, ...	66	54	69	189
General Malnutrition, and Debility, ...	24	62	71	157
Bronchitis, ...	3	1	1	5
Debility after acute illnesses,	3	18	30	51
Anæmia, ...	14	3	7	24
Nervousness, ...	—	1	2	3
Healthy, but mother about to be confined, or ill, . .	2	—	—	2
	112	139	180	431

The dismissals during the year were 109 from Mount Vernon, 124 from Scotstoun, and 141 from Mount Blow. The condition on dismissal is summarised in the following statement:—

	Mount Vernon	Scots-toun	Mount Blow	Total
Much improved, ...	69	60	50	179
Not improved, ...	1	1	—	2
Parents leaving city, ...	2	4	2	8
Transferred suffering from infectious disease, ...	20	29	16	65
Taken home by parents (fretting, &c.), ...	5	10	15	30
Died, ...	—	—	1	1
For admission to other Institutions, ...	—	2	1	3
Sent home, ...	—	—	1	1
Contacts with cases of Infectious Disease sent home,	12	18	55*	85
	109	124	141	374

* 44 of these were resident a sufficient period to be markedly improved in general health.

Apart from those dismissed from the Homes for special reasons, 179 were much improved and only 2 not improved on discharge.

Garscube Cottage Hospital.—This Home was taken over for the purpose of giving debilitated mothers with young children an opportunity of recuperating their health by a fortnight's rest. During the year, 172 mothers with 173 infants were admitted, while dismissals numbered 174 mothers and 175 infants, including 1 child who died. Of the total, 123 completed fourteen days' residence, while 5 others were kept in for a few days longer; the remainder (44) left before the end of the fortnight, mostly for domestic reasons.

MIDWIVES (SCOTLAND) ACT, 1915.

The year 1926 is the tenth of the operation of this Act, and the summaries which follow indicate the work done during the year:—

Of the 310 midwives who notified their intention to practise, six reside in the recently annexed area, but as two of these had on previous years sent a notice of "intention to practice," the apparent increase of three on last year's number (307) is really a decrease of one. In all, 26 notified for the first time, 21 of these being entitled to registration "by examination," and 5 as having been in practice in 1914; of these last, 2 reside in the annexed area, and 2 are County midwives doing only an odd case in Glasgow.

For the first time there are more midwives who have passed the examination of the Central Midwives Board for Scotland than of either of the other classes. This shows a steady diminution in the numbers of the untrained midwife. Five of the latter have died, two have resigned, and one has had her certificate cancelled. Of the trained midwives, only 3 have left Glasgow (2 for America), while the certificate of the other was cancelled.

Three midwives were dealt with by the Central Midwives' Board. Two, as previously mentioned, had their certificates cancelled, and one was censured. Three, who have been reported towards the end of the year, have still to appear before the Board.

Again, two refresher courses, consisting of eight lectures each, were held during the winter at the Maternity Hospital, with an average attendance of about 30 at each, so that the whole of the midwives who expressed a desire for further instruction have now been given an opportunity of attending one or other of the courses held this year and last year, and great appreciation of the instruction given has been expressed.

Only 14 deliveries have taken place without some sort of skilled attention, as far as is known; 6 of these were foundlings, while in other 5 near relatives attended, and in only 3 were old handywomen involved, and these were seen and admonished.

The following tables summarise the numbers for the year, with relative figures for the two preceding years:—

	1924	1925	1926
Midwives in Practice during year, ...	310	307	310
THE QUALIFICATIONS FOR CERTIFICATION UNDER ACT, HELD BY THE FOREGOING WERE—			
In Practice, December, 1914, ...	142	131	129
C.M.B. (Scotland) Examination, ...	119	126	133
Other recognised qualifications, ...	49	50	48

In the following table some indication is afforded of the number of births attended during the year by individual midwives. It would seem that of the 11,016 births attended by midwives 8,014 occurred in the practice of midwives with 50 confinements or more in the year:—

BIRTHS NOTIFIED BY MIDWIVES.

	Births Notified		1926	
	1924	1925	Births	Midwives
Under 50 Notifications, ...	2,772	2,783	3,002	189
50-100 ,, ...	3,206	2,625	2,599	37
100-200 ,, ...	3,694	4,551	3,604	27
200-300 ,, ...	1,577	1,639	1,811	8
300-400 ,, ...	324	308	—	—
Over 400 ,, ...	—	—	—	—
	11,573	11,906	11,016	261

STILL-BIRTHS NOTIFIED BY MIDWIVES.

	Midwives			Still-Births notified		
Notifications	1924	1925	1926	1924	1925	1926
1-5, ...	98	119	95	204	251	200
6-10, ...	15	8	12	95	59	83
11-15, ...	—	2	—	—	24	—
Over 15, ...	—	—	—	—	—	—
	113	129	107	299	334	*283
Percentage of Births attended, ...				2·6	2·8	2·6

* In 86 cases, Doctors assisted.

The figures in the two following summaries contain records of ophthalmia occurring in the practice of midwives, so that the numbers are not the same as the actual cases referred to in other sections of this report:—

CASES OF OPHTHALMIA NEONATORUM OCCURRING IN PRACTICE OF MIDWIVES.

Notifications	Midwives 1924	Midwives 1925	Midwives 1926	Cases notified 1924	Cases notified 1925	Cases notified 1926
1-5, ...	88	93	76	185	209	165
6-10, ...	15	17	20	107	125	149
11-15.	3	2	7	37	27	83
16-20, ...	1	2	3	17	35	52
21-25, ...	2	1	2	49	22	45
Over 25, ...	—	—	—	—	—	—
	109	115	108	395	418	494
Percentage of Births attended,			...	3·4	3·5	4·5

CASES OF PUERPERAL FEVER OCCURRING IN PRACTICE OF MIDWIVES.

	Midwives 1924	Midwives 1925	Midwives 1926	Cases 1924	Cases 1925	Cases 1926
1 Case, ...	45	45	41	45	45	41
2 Cases, ...	8	14	15	16	28	30
3 ,, ...	3	3	6	9	9	18
4 ,, ...	—	2	1	—	8	4
5 ,, ...	—	—	1	—	—	5
	56	64	64	70	90	98

NUMBER OF REQUESTS FOR ASSISTANCE TO MEDICAL PRACTITIONERS IN CASES OF EMERGENCY UNDER RULE.

Notifications	Midwives 1924	Midwives 1925	Midwives 1926	Requests made 1924	Requests made 1925	Requests made 1926
Under 10, ...	128	111	110	504	466	417
,, 20, ...	39	38	45	543	522	609
,, 30, ...	19	24	26	446	580	608
,, 40, ...	12	15	8	403	511	275
,, 50, ...	4	5	8	175	207	341
Over 50. ...	3	5	8	215	330	497
	205	198	205	2,286	2.616	2,747

During the year there were 2,747 occasions on which medical help was called by midwives, which represents 25 per cent. of the total births occurring in the practice of midwives, and compares with 22 per cent. in 1925 and 20 per cent. in 1924. The present is the highest point reached. Details of the nature of emergency are not given this year, but the following indicates the period during which medical assistance was called:—

Nature of Emergency.	1924	1925	1926
In all cases in which a woman during pregnancy, labour, or lying in appears to be dying or is dead, ...	2	6	3
Pregnancy.—In cases of a pregnant woman, where there is any abnormality or complication, ...	151	168	186
Labour.—In the case of a woman in labour at or near term, when there is any abnormality or complication, ...	1,416	1,671	1,752
Lying-in.—In the case of a lying-in woman, when there is any abnormality or complication, ...	268	261	303
The Child.—In the child, when there is any abnormality or complication, ...	444	485	480
Cannot be classified, ...	5	25	23
Total, ...	2,286	2,616	2,747

Deaths (Notified by Midwives) before a Doctor was in attendance, ...	1 mother	28 infants
Laying out the Dead, ...	3 adults	7 infants
Artificial Feeding, ...	38 Notifications	

Intimation of Exposure to Infection.

Diseases	1924	1925	1926
Puerperal Fever, ...	57	67	74
Measles, ...	11	9	32
Whooping-Cough, ...	3	4	2
Scarlet Fever, ...	7	4	10
Diphtheria, ...	2	3	3
Influenza, ...	2	—	1
Pneumonia, ...	8	5	10
Erysipelas, ...	1	—	—
Enteric, ...	—	1	1
Chickenpox,...	3	1	1
Others, ...	—	5	4
	94	99	138

Fees to Doctors in Emergency Cases.—In the following table the total amount of accounts for the year ending November is shown, that being the period at which doctor's accounts are made up.

Year ended November,		1922,	...	...	£2,040	7	0
Do.	do.,	1923,	...	...	1,829	17	0
Do.	do.,	1924,	...	...	1,229	0	0
Do.	do.,	1925,	...	...	1,416	18	0
Do.	do.,	1926,	...	...	1,610	4	6

The practice of issuing accounts with the object of recovering some part of the fee, which was begun as from June, 1922, has been continued, and during the past year £256 18s. 6d. has been so recovered, while £32 4s. was withdrawn from medical practitioners' accounts, and accounts for £8 7s. were deleted.

OPHTHALMIA NEONATORUM.

During the year 1926, 665 cases of ophthalmia neonatorum were notified, compared with 615 in 1925 and 592 in 1924. These numbers represent rates of 26·8, 24·0, and 22·2 respectively. Particulars of these years are given in the following table, according to attendance at birth, which would seem to indicate that a greater number of cases were reported by nurses and midwives.

OPHTHALMIA NEONATORUM CASES AND CASE-RATES PER 1,000 BIRTHS.

Notified by	Cases.			Rates.*		
Year	1924	1925	1926	1924	1925	1926
Doctors, ...	43	44	35	5·7	6·1	5·0
Institutions, ...	56	41	53	17·5	14·1	15·2
Inst. Nurses, ...	98	113	82	23·2	29·2	23·4
Midwives, &c., ...	395	416	495	33·9	35·9	45·8
Regd. by P.H.D. Staff, ...	592	614	665	—	—	—
Removed, ...	—	1	—	—	—	—
Total cases of Ophthalmia Neonatorum, ...	592	615	665	22·2	24·0	26·8

* Calculated on Live Births notified, less duplicates. "Doctors found in attendance" are included in "Doctor in attendance," and deducted from "Midwives," &c.

The period at which symptoms appear is given in the following summary, which shows considerable uniformity with regard to the interval after birth at which ophthalmia develops:—

Cases occurring at Age—	1924	1925	1926
– 12 hours, ...	46	63	52
– 4 days, ...	221	208	262
– 8 ,, ...	206	226	227
+ 8 ,, ...	119	117	124
	592	614	665

Association with Syphilis.—Swabs of the discharge from eyes are obtained from as many cases as possible for examination for gonococcus, and the results are shown in the following table, together with information as to association with clinical syphilis, verified by bacteriological tests or otherwise. Of all the swabs examined for gonococcus only, about 13 per cent. proved positive, compared with 8 per cent. for the previous year.

Among the gonococcal cases only one was associated with syphilis, and one also among the non-gonococcal cases:—

	Gonococcal.			Non-Gonococcal.			Unclassified.			Total.		
	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis	Total Cases	Syphilis present	Per Cent. with Syphilis
1924,	49	1	2·0	348	3	0·9	195	—	—	592	4	0·7
1925,	32	1	3·1	366	2	0·5	216	—	—	614	3	0·5
1926,	59	1	1·7	395	1	0·3	211	—	—	665	2	0·3

Although the number of cases of ophthalmia neonatorum reported exceed those of the preceding year, those of gonococcal origin are relatively considerably higher, there being 59 cases during 1926, compared with 32 in 1925 and 49 in 1924. The number of cases of gonococcal ophthalmia represents a rate of 2·4 per 1,000 of all births occurring during 1926, compared with 1·25 in 1925. In 1919 the rate was 10·34.

Gonococcal Cases.—The results of treatment of this group of cases were very satisfactory. Of the 59 cases, 52 recovered with no corneal defect, but 2 cases of blindness in one eye occurred. Corneal scar remained in only 2 instances in one eye, and these were cured without impairment to vision.

Non-Gonococcal Cases.—Of this group 386 recovered without defect, and corneal scar occurred in only one case, whose sight was not impaired. There was no instance of scarring or blindness of both eyes:—

Result.	1924		1925		1926	
	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present	No Syphilis	Syphilis Present
Gonococcal—						
No Corneal Scar, ...	39	—	25	1	51	1
Corneal Scar remaining						
In one eye—						
Sight not impaired,...	3	—	3	—	2	—
,, impaired, ...	1	—	—	—	—	—
Blind, ...	—	—	—	—	2	—
In both eyes—						
Sight not impaired,...	1	—	—	—	—	—
,, impaired, ...	1	1	—	—	—	—
Blind, ...	1	—	—	—	—	—
Removed, ...	—	—	1	—	—	—
Died, ...	2	—	2	—	3	—
	48	1	31	1	58	1
Non-Gonococcal—						
No Corneal Scar, ...	339	2	354	—	385	1
Corneal Scar remaining						
In one eye—						
Sight not impaired,...	—	1	2	—	1	—
,, impaired, ...	—	—	1	—	—	—
Blind, ...	—	—	1	1	—	—
In both eyes—						
Sight not impaired,...	—	—	—	—	—	—
,, impaired, ...	—	—	—	—	—	—
Blind, ...	—	—	—	—	—	—
Removed, ...	—	—	1	—	—	—
Died, ...	6	—	5	1	8	—
	345	3	364	2	394	1
Unclassified—						
Cured, ...	191	—	212	—	206	—
Corneal Scar remaining						
In both eyes—						
Sight not impaired,...	—	—	1	—	—	—
Died, ...	4	—	3	—	3	—
Removed, ...	—	—	—	—	2	—
	195	—	216	—	211	—
Total, ...	588	4	611	3	663	2

PUERPERAL FEVER.

The number of cases occurring annually in the City has averaged around 300 during recent years. Calculated on the births it would seem that the cases are increasing, but if the morbidity rate be taken as an index, there is reason to believe that less acute conditions, which were formally not recorded, are now being brought to the notice of the department.

The following table summarises the cases and mortalities, &c., during the past five years:—

	Cases	Deaths	Case Mortality per cent.	Cases per 1,000 Births	Deaths per 1,000 Births
1921,	321	72	22·4	10·8	2·4
1922,	294	94	32·0	10·4	3·3
1923,	278	72	25·9	10·4	2·7
1924,	239	61	25·5	9·5	2·4
1925,	300	68	22·7	11·8	2·3
1926 (old City),	307	69	22·5	12·6	2·8

The following table gives an analysis of the cases and deaths during 1926 in relation to attendances at birth:—

PUERPERAL SEPSIS—CASES AND DEATHS OCCURRING IN GLASGOW DURING THE YEAR 1926.

	Births.	Total Cases.	Cases per 1,000 Births.	Deaths.	Deaths per 1,000 Births.	Case Mortality per cent.
Doctors' cases, ...	7,255	75*	10·3	17	2·3	22·3
Midwives' Cases, ...	11,105	98†	8·8	15	1·4	15·3
Maternity Hospital—						
Outdoor, ...	3,600	47	13·1	9	2·5	19·1
Indoor, ...	2,653	43	16·2	20	7·5	46·5
Govan Cottage Hospital,	265	11	41·5	4	15·1	36·4
Stobhill Hospital, ...	587	1	1·7	—	—	—
Beyond City, per Glasgow Institutions, ...	—	5	—	1	—	20·0
Royal Infirmary (Abortions),	—	1	—	—	—	—
No one (Abortions), ...	—	27	—	8	—	29·6
Handywomen, ...	—	1	—	—	—	—
Institutions and others with no cases, ...	572	—	—	—	—	—
Total, ...	26,037	399	11·9	74	2·8	23·9

*In 10 cases assisted by Midwives. †In 23 cases assisted by Doctors

PUERPERAL FEVER IN A MATERNITY HOME.

A series of cases of puerperal fever and erysipelas occurred in a Maternity Home, of sufficient severity to warrant the closure of the Home for the time being. A very full investigation was made both by the department and by one of the medical officers of the Board of Health. The report is too lengthy to be included here, but the following are the salient facts of the outbreak:—

The first patient, who had been admitted to the Home on 6th November, sickened on 12th November, and was removed to the infectious disease hospital on 21st November. A second patient, who had been admitted to the Home on 11th November, sickened on 16th November, and was removed to hospital on the same day as the first patient. It appeared, however, that there had been a patient, Mrs. W., in the Home who had developed fever on 4th November, and had a sub-febrile temperature till 15th November, this condition being attributed to acute bronchitis, for which she was isolated in the Home.

Including this latter patient, the whole series was as follows:—

	Name.	Attendants.	Admitted to Maternity Home. November.	Date of Confinement. November.	Date of Sickening. November.	Admitted to Hospital. November.	Died. November.
I.	Mrs. W.	Nurse F. Midwife R.	1st	2nd	4th	—	—
II.	Mrs. M.	Nurse F. Midwife R.	6th	7th	12th	21st	—
III.	Mrs. M.	Nurse H. Midwife R.	11th	12th	16th	21st	—
IV.	Mrs. W.	Nurse R. Midwife R.	20th	21st	21st	24th	28th
V.	Mrs. M'D.	Nurse M. Midwife R.	23rd	23rd	23rd	—	25th
VI.	Mrs. F.	Nurse P. Midwife M'I.	22nd	23rd	23rd	—	26th
VII.	Mrs. S.	Nurse R. Midwife M'D.	22nd	22nd	24th	26th	27th
VIII.	Mrs. R.	Nurse P. Midwife R.	22nd	22nd	24th	26th	—
IX.	Mrs. M.	Nurse A. Midwife R.	24th	24th	26th	26th	—
X.	Mrs. R.	Nurse B. Midwife M'D.	21st	22nd	26th	December. 2nd	—
				Erysipelas Cases.			
XI.	Baby F.	Nurse P. (Scrotal Erysipelas).			30th	2nd	December. 5th
XII.	Nurse P.	Attended Mrs. F. and Baby. (Facial Erysipelas).			December. 4th	7th	—

It will thus be seen that 10 cases of puerperal fever occurred in the Home, with 4 deaths, and 2 cases of erysipelas, with 1 death. The extreme virulence of the infecting organism is shown by the rapidity with which the fatal cases became infected after labour, and the severity and short duration of their illnesses.

A brief account of the facts as regards each case may be given:—

Case I.—Normal labour; febrile temperature from 4th to 15th November; dismissed home on 16th November; condition attributed to acute bronchitis.

Case II.—Normal labour; on sixth day after confinement had pain in left side, and for next three days a remittent temperature, reaching 101·6° F.; isolated on 15th November, but temperature became continuous 103° F.; removed to hospital on 21st November.

Case III.—Perineal tear; temperature 101° F. on and after 5th day after confinement; isolated; removed to hospital on 21st November.

Case IV.—Normal labour; sickened on day of confinement; temperature 103° F.; died seven days later in hospital, with continuous vomiting and abdominal pain; operation; peritonitis.

Case V.—Normal labour; sickened two days after confinement; died same day; peritonitis.

Case VI.—Perineal tear; sickened two days after confinement; died same day; acute spreading lymphangitis.

Case VII.—Adherent placenta; two days after confinement had pain in chest, with laboured breathing; died three days later shortly after admission to hospital.

Case VIII.—Perineal tear; two days after confinement complained of abdominal pain, and on the following day had temperature 103° F.; stitches sloughed; recovered after a long illness.

Case IX.—Normal labour; sickened two days after confinement with rigors; small piece of retained placenta; recovered after long illness.

Case X.—Adherent placenta; temperature 100·8° F. four days after confinement; recovered.

The nurse who attended case No. 6 contracted facial erysipelas from the baby, who died of scrotal erysipelas in hospital; no doubt infected by the mother.

The Home in which these cases occurred contains accommodation for 20 patients, in two wards with four beds each, a convalescent ward of similar size, two beds in the labour-room, an isolated room, and five single bedrooms. It is a well-equipped and managed institution. This serious incident, however, raised important questions of medical administration, concerned chiefly with late diagnosis and notification and certain details connected with the management of patients. With the re-opening of the Home, at the end of December, these were remedied by the managers in a thoroughly satisfactory manner.

SECTION IV.

INFECTIOUS DISEASES.

The prevention and treatment of infectious diseases was, not so very long ago, the main function of the Public Health Department. Within recent years it has become only one of many important services.

The infectious diseases section of the work, however, has itself grown very considerably within recent years, with the addition of tuberculosis, both pulmonary and non-pulmonary forms, respiratory diseases, such as acute primary pneumonia and influenzal pneumonia, tropical diseases, and venereal diseases, as well as a number of other diseases specially dealt with in other sections of this report.

The development of the Public Health service brings the general medical practitioner more and more in touch with the department in connection with the diagnosis and treatment of disease. For the purpose of establishing this co-operation on a firmer footing, meetings have been held with representatives of the medical practitioners in the City, and a preliminary informative statement has been agreed upon for issue by them to the profession. Dr. Clark has undertaken to prepare a fuller descriptive statement for the information of medical men, in order to secure the maximum of mutual co-operation with the department in the interests of patients.

CO-OPERATION WITH GENERAL PRACTITIONERS.

The various days and hours of meeting of the sessions of the clinics of the Local Authority are published from time to time. In order to make these services as satisfactory as possible and beneficial to all concerned, the following suggestions are made :—

Tuberculosis. — Where a practitioner refers a case to the Local Dispensary for opinion or for X-ray examination, a short résumé of the clinical history would facilitate greatly the work of the Tuberculosis Officers. A special note should be made of the symptoms which the practitioner has noticed, as it is found by experience that the patient seldom pays any attention to the early symptoms, which are of much significance to the doctor. When such notes are sent to the Tuberculosis Officers, the practice is to furnish the practitioner with a complete opinion as to the result of the examination.

Venereal Diseases.—A similar procedure to the above should be adopted when sending a case to any clinic for the treatment of venereal disease. In the case of syphilis, it is of primary importance that the nature and date of any previous treatment should be made known to the Clinical Officer. Medical practitioners would greatly assist the work at these Centres by impressing upon the patients the necessity for prolonged and continuous treatment. It should be noted that Salvarsan substitutes are issued from the Public Health Department for the use of practitioners in treating cases who are unable to pay for the drug, and who are not insured persons. In this connection the practitioner must furnish proof of experience in intravenous therapy.

Infectious Diseases.—It often happens that a patient admitted for one infection is incubating another, a circumstance which leads to cross-infection of wards. Many medical men are in the habit of reporting this important fact when requesting the removal of patients to hospital, but others often omit to make inquiry and report possible exposure to some other infection. Difficulty arises, for instance, with acute pneumonia during outbreaks of measles and whooping-cough, leading to frequent crossing of wards and loss of available bed accommodation in the hospitals. The same applies to other infections, and it would be of great benefit in the proper grouping of patients in hospital if information as to possible contact with other infections were ascertained and notified when removal is requested. In the case of diphtheria, where serum has been administered, a note as to the time of administration and amount injected should be sent with the patient.

Owing to the demand on hospital beds during the winter for the treatment of infectious diseases, especially pneumonia and measles, medical men are requested to refrain from sending to hospital slight cases of both affections, unless for some special reason.

It may be pointed out that no provision is made for the treatment of mumps or for the sequelæ of encephalitis lethargica in the four hospitals.

Food Poisoning.—Frequently the first intimation of cases of this nature is obtained from the public press or from the police. It would greatly facilitate the work in these cases if the practitioner would telephone the Public Health Department if his suspicions are aroused. Endeavours should be made to ensure that all remains of food partaken of by the household be kept, and that all vomit and such material be retained for bacteriological examination.

All the hospitals of the Local Authority are open to medical practitioners, and every endeavour is made to ensure that all inquiries, both in writing and by telephone, are fully answered.

In 1926, within the area of the City previous to extension on 15th May, 44,818 cases were registered and 307 in the added area. Of the former number, 14,197 were removed to hospital and 126 of the latter. The large number removed to hospital taxed the accommodation in the spring before the epidemic of

measles, which had been prevalent throughout the winter, had abated and when the incidence of acute primary pneumonia became somewhat heavy. Again there was difficulty in this respect in November, when cases of respiratory diseases were numerous and the number of cases of scarlet fever had risen considerably. The monthly incidence of the various infectious diseases is given in Table XIX of the Appendix.

In Appendix Table XVII the numbers of cases treated at home and in hospital for each of the diseases is shown with the respective numbers for the two preceding years. In order to establish a comparison, the rates per million of the population are given in Appendix Table XVIII with similar information in respect of the four preceding years.

The case-rates of the diseases dealt with under the Infectious Diseases (Notification) Act, 1889, are summarised in the following table since the year 1913. The case-rates given in the column headed "All Others" include in the earlier years only measles, whooping-cough, and chickenpox, but more recently ophthalmia neonatorum, trachoma, malaria, dysentery, certain forms of acute disease of the central nervous system, and the various forms of pneumonia made notifiable from time to time are embraced:—

GLASGOW.—CASE-RATE PER MILLION OF THE POPULATION FOR ALL CASES OF INFECTIOUS DISEASES REGISTERED SINCE 1913.

Year	Typhus Fever.	Enteric Fever.	Continued and Undefined.	Puerperal.	Smallpox.	Scarlet Fever.	Diphtheria and Membranous Croup	Cerebro-Spinal Fever.	Phthisis.	Non-Pulmonary Tuberculosis.	All Others.	Total.
1913,	39	232	7	144	...	4,005	1,934	35	2,552	...	26,247	35,195
1914,	18	340	7	206	...	5,337	1,440	45	2,284	1,088[1]	21,675	32,440
1915,	9	248	5	175	...	5,973	1,257	167	2,169	1,375	25,389	36,667
1916,	17	158	8	178	...	3,719	1,220	131	2,285	1,270	17,001	25,987
1917,	1	82	4	148	...	1,634	1,146	75	2,435	1,433	27,005	33,963
1918,	49	128	12	151	1	1,193	1,379	67	2,258	1,273	16,045	22,556
1919,	30	103	8	163	5	2,443	1,626	72	1,834	1,083	21,359	28,726
1920,	8	204	13	267	477	3,378	1,809	76	2,009	1,063	25,509	34,813
1921,	6	100	7	299	19	3.272	1,727	56	1,902	1,061	23,965	32,414
1922,	18	79	6	272	...	3,212	1,561	62	1,806	970	31,419	39,405
1923,	2	116	20	255	...	3,277	1,623	59	1,584	1,133	25,453	33,522
1924,	...	75	17	216	2	2,905	1,733	60	1,669	1,114	30,259	38,050
1925,	...	40	8	273	...	3,472	1,581	56	1,457	1,016	30,959	38,862
1926,*	7	91	4	279	...	4,252	2,082	60	1,572	907	31,430	40,684

[1] Non-pulmonary tuberculosis made compulsorily notifiable, July, 1914.
*Rates for 1926 are for City area before extension.

There has been considerable variation of the several diseases shown. Typhus and enteric fevers are considerably reduced; puerperal fever, although showing a higher incidence, probably reflects the better administration since the coming into force of the Midwives (Scotland) Act, 1915, while smallpox has been practically confined to the one outbreak of 1920-21.

Among the diseases most prevalent in children, scarlet fever has shown a steady tendency to increase each year since the low rate of 1917, when it was 1,193, until 1926, when it was 1,450, the highest recorded since the City boundary was extended in 1913. Diphtheria was also considerably more prevalent during the year.

The steady rise and fall of these diseases over a considerable period reflects a periodicity of from 12 to 14 years, a movement which has been found to recur since notification of infectious disease began.

Tuberculous diseases are dealt with in the next section of this report.

In the column "All Others," measles is responsible for 14,630 of the total rate (31,430); whooping-cough, 5,191; and pneumonia, 5,589.

Notes on prevalence, &c., of the various diseases are given in the following pages.

DISEASES FORMERLY CALLED "PRINCIPAL ZYMOTIC DISEASES."

The death-rates for several periods have been:—

1881-90,	3·600	per 1,000 living.	1921,	1·116	per 1,000 living.
1891-1900,	3·282	,,	1922,	1·997	,,
1901-1905,	2·660	,,	1923,	1·457	,,
1906-1910,	2·450	,,	1924,	1·702	,,
1911-1915,	2·424	,,	1925,	1·245	,,
1916-1920,	1·607	,,	1926,	1·233	,,

In this comparison only those infectious diseases that have been notifiable for most of the period given are included.

SMALLPOX AND VACCINATION.

One case of smallpox, occurring on board a ship, was dealt with during the year. This is referred to in Section IX, dealing with the Port Local Authority.

VACCINATION.

The total number vaccinated at the Corporation Centres, which are held in conjunction with the Child Welfare clinics in the districts, was 2,927, compared with 2,531. This increase is largely due to the greater numbers now attending.

The following table shows the numbers of children vaccinated at the various Centres during the past three years:—

STATEMENT SHOWING NUMBER OF INFANTS VACCINATED AT THE CHILD WELFARE CONSULTATIONS DURING THE YEARS 1924-1926.

Centre	1924	1925	1926
Public Health Office, ...	424	425	512
Garngad, ...	57	80	82
Port Street, ...	108	80	64
Maryhill, ...	139	155	208
Merryland Street, ...	142	124	179
Adelphi Street, ...	175	191	254
Partick, ...	133	115	94
Weir Street, ...	170	190	213
Bridgeton, ...	697	629	917
Shettleston, ...	163	212	162
Campbellfield Street, ...	72	51	17
Cowcaddens, ...	264	175	105
Elder Hospital, ...	84	104	111
Yoker, ...	—	—	9
	2,628	2,531	2,927

VACCINATION (SCOTLAND) ACT, 1907.

The following shows the number of declarations of conscientious objection to vaccination made each year since the Act came into operation:—

1907-10 (annual average),	2,119	1921, ...	4,992
1911-15, „	5,922	1922, ...	5,668
1916, ...	7,013	1923, ...	5,497
1917, ...	7,017	1924, ...	5,090
1918, ...	6,049	1925, ...	5,345
1919, ...	6,489	1926, ...	5,485
1920, ...	4,342		

Although the increase in the number of children not vaccinated during the year on declaration of conscientious objection made by parents is not large, the annual addition of between 5,000 and 6,000 unprotected children to the population is a matter of some concern.

Allowing for reductions by deaths at pre-school ages, the population of the City contains approximately 20,000 children unprotected against smallpox, and probably about 40,000 among school children, *i.e.*, between 20 and 25 per cent.

The numbers of conscientious objectors in each Municipal Ward are given in Appendix Table XXII, which shows that the largest proportion of exemptions in this respect occurs in Fairfield, where the percentage was 49, practically half the children born in that ward. In Pollokshaws 42 per cent. were unvaccinated for this reason, and in Springburn 42 per cent. This may be compared with 7 per cent. in Kelvinside, 13 in Woodside, and 15 in Maryhill.

The following abridged table has been included to illustrate the salient features as regards child vaccination since the Conscientious Objection Act was passed in 1907:—

Table showing Results of Primary Vaccination of Children born during several years.

(From the Detailed Annual Reports of the Registrar-General).

Year	Successfully vaccinated Per cent.	Insusceptible of vaccine disease Per cent.	Died before vaccination Per cent.	Conscientious objection to vaccination Per cent.	Vaccination postponed Per cent.	Unaccounted for Per cent.
1906,	82·9	0·5	10·6	0·2	0·8	5·0
1907,	75·0	0·7	10·7	4·9	1·5	7·2
1908,	69·5	0·8	10·8	9·2	1·7	8·0
* * *	* *	* *	* *	* *	* *	*
1914,	51·7	0·9	12·1	25·1	1·8	8·4
* * *	* *	* *	* *	* *	* *	*
1920,	73·7	1·4	8·5	11·2	1·4	3·8
1921,	63·4	2·0	9·6	19·1	1·8	4·1
1922,	64·3	1·8	7·8	20·6	1·7	3·8
1923,	63·9	1·2	8·1	21·0	1·8	4·0
1924,	64·5	1·5	8·4	19·9	1·8	3·9

The proportion of children successfully vaccinated has been stabilised at about two-thirds of the total births during the last four years, but the possibility of an outbreak of smallpox is ever present, in view of the continued general prevalence of the

disease in England, especially in northern counties. The danger is further increased by the number of contacts which quick ocean travel brings here within the incubation period from more remote countries, where the disease is always more or less prevalent.

TYPHUS FEVER.

After an absence of three years a group of seven cases of typhus fever occurred, all of whom were admitted to Belvidere Hospital from July 30th to August 2nd, while an eighth case was removed on 10th August.

The first case of the group presented some difficulty in diagnosis. The rash was extensive and hæmorrhagic, and there was a comparatively mild constitutional disturbance, while the cerebro-spinal fluid gave a reaction characteristic of meningitis. The later cases showed a more typical rash, with a high degree of pyrexia; the constitutional disturbance varied with the age of the patient. In the younger patients the disease ran a mild course, whilst in the older patients the disease was of a severe nature.

The last case, a woman aged 50 years, was not a member of the infected family, but was a friendly neighbour who had nursed the original case, and had accompanied him in the ambulance to the City infirmary to which he had been primarily admitted. The outbreak was thus limited to one family and a direct contact.

The removal of direct contacts of typhus fever to a reception house, and daily observation, with the recording of morning and evening temperatures, as a routine measure, have been justified, as four cases were discovered on the first or second day of illness. Only two (including the primary case) of the remaining patients showed the rash of typhus fever on admission to Belvidere Hospital.

The Weil-Felix blood reaction was positive in all cases.

A full description of the epidemiological and clinical features of this outbreak, by Drs. Andrew Davidson and Robert Cruichshank, appeared in "The Lancet," of 23rd April, 1927.

NOTE ON THE OCCURRENCE OF TYPHUS FEVER IN GLASGOW.

The definite and recognisable case is usually preceded and accompanied by other types much less easily diagnosed, which, but for their occurrence in association with the declared disease, might frequently

pass undetected. The first reported case is often associated with previous suspected illness, and outbreak has begun before it comes to notice. Medical men have little opportunity nowadays to become acquainted with this affection. Its elusiveness is due to modifications in its clinical features which render recognition difficult or impossible. It is very commonly mistaken for pneumonia; the rash is often absent; the course of the temperature may be quite a typical one (irregular or remittent); in children especially all that may occur is a brief febrile illness, with some bronchitis. Indeed, the diagnosis of typhus fever is often so difficult that the presence of small groups of cases may sometimes be missed.

This has been the usual history of outbreaks in the City. It rarely occurs as a single case, but in groups, and its infectivity may be correlated with the verminous condition of the patients.

The second characteristic of typhus is that there often appear distinct and apparently separate outbreaks simultaneously, or within a few weeks of one another. Glasgow has rarely been free from these outbreaks, as the following table shows:—

GLASGOW—TYPHUS FEVER.

Year	No. of Cases	Year	No. of Cases
1903, ...	41	1915, ...	9
1904, ...	34	1916, ...	17
1905, ...	67	1917, ...	1
1906, ...	12	1918, ...	49
1907, ...	6	1919, ...	30
1908, ...	16	1920, ...	8
1909, ...	32	1921, ...	6
1910, ...	19	1922, ...	18
1911, ...	9	1923, ...	2
1912, ...	43	1924, ...	—
1913, ...	39	1925, ...	—
1914, ...	18	1926, ...	8

These yearly episodes resolve themselves into a number of apparently separate foci—for instance, in 1913, six areas, in different parts of the City, were affected, four of which on investigation were found associated; in two areas no connection could be traced, although the fact that the original case was a dealer in old clothes was suggestive. In 1912 there were 43 cases, 23 of which occurred in four separate groups, but in the same street. These outbreaks were no doubt inter-related, although inquiry failed to show any association. Later in the year there occurred cases in three families not associated with the former cases, or with one another. In 1910 there were two groups of cases in April, and four months later single isolated cases in widely separated districts. This has been the usual endemic incidence of typhus fever in the City in recent years.

It is not probable that infection persists over long intervals such as occurred between the cases in 1926 and those recorded in 1923. It is known that lice may carry infection from person to person,

a fact of epidemiological significance. Indeed, the recognition of this fact, and the quarantine and de-lousing machinery set up in Middle Europe, protected Western Europe after the war from the spread of the epidemics then occurring in Russia. It has been suggested that the organism may reside in the body of the louse, and be transmitted through many generations. It is conceivable that lice may be one of the normal habitats of the typhus organism, and that they act as the source from which human infection arises from time to time. Apart from the absence of experimental evidence in favour of such a view, if the infection is widespread among lice, it is likely that the epidemiology of the disease would be quite different. On the other hand, the role of the louse may simply be that of an accidental associate and carrier of infection from man to man rather than a source of infection.

ENTERIC FEVER.

There was a somewhat marked increase in the number of cases notified in the enteric fever group of diseases, 100 cases having been registered in comparison with 44 during 1925.

Enteric Group of Diseases. — This disease has increased to some extent. Last year only 44 cases occurred, although 91 were notified, while this year 100 cases were confirmed out of a total of 146 cases, which were notified. The low proportion of cases in which the diagnosis could be confirmed shows that this disease is still difficult to recognise. Of the cases confirmed, the following table shows the proportion of the various types of infection :—

Enteric Fever, ...	68
Para B, ...	32
	100

Only 4 cases were treated at home. The remainder were admitted to hospital.

In 79 confirmed cases urine and fæces of contacts at home were examined. The following tables show the details of the number of contacts examined, and the results :—

	Enteric Fever.	Paratyphoid Fever (B).	Totals.
Number of verified cases, ...	68	32	100
Number of cases in connection with which urine and fæces were examined,	49	30	79
Number of contacts + 10 years, ...	173	106	279
Number of contacts − 10 years, ...	81	23	104
Total number of contacts, ...	254	129	383
Number of contacts examined, ...	240	122	362
Number found positive, ...	4	1	5

This table shows that of 383 contacts living in the same house with the patient, 362 were examined, and of these 5 were found positive. The details of the 5 carriers are as follows :—

	Patients' Ages	Disease	Contacts: In patient's house	Contacts: Found Positive	Organisms found	Subsequent Examinations	Remarks
(1)	11 (f.)	Typhoid.	3	Aunt (59 years).	B. Typhosus.	Positive on 3 Examinations then Negative.	This is an instance of a true carrier. The aunt had had Enteric Fever about 23 years ago.
(2)	24 (f.) 22 (m.)	Para B.	5	18 (f.) Sister.	Para B.	Negative.	It was ascertained that before the others took ill, the sister who was found positive had had a mild attack which had not been recognised.
(3)	6 (m.)	Typhoid.	6	Father.	Typhoid.	Negative.	Father had had a missed mild attack of Enteric Fever a few weeks before his son was infected.
(4)	66 (m.)	Typhoid.	7	Wife.	B. Typhosus.	Positive.	Wife was a known carrier detected in 1922, when all the rest of the family were inoculated, except the father.
(5)	42 (f.) 13 (f.) 7 (f.) 6 (f.) 18 (m.)	Typhoid.	15	Son (13).	B. Typhosus.	Positive.	This is an instance of a urinary type of carrier, and is described below.

Of these cases, those numbered 2 and 3 were not instances of true carriers, but of recent mild infections which had not been recognised.

Case (1).—The patient, a girl of 11 years, had been on a visit to her aunt in Greenock, where she was infected. The aunt came to Glasgow to help to nurse her niece, and in the routine examination of the urine and fæces of the contacts in the house her fæces were found to be positive. She gave a history of a previous attack of enteric 23 years ago, and as subsequent specimens still proved positive, treatment by B. typhoid vaccine was begun. After four doses of vaccine she returned to Greenock, where the treatment was continued with apparently successful results. This would appear to be a case where a true carrier had been responsible for the infection.

Case (5).—Enteric fever in a family due to a urinary carrier and associated with overcrowding.

On the 22nd April a boy of 13 years sickened of enteric fever, but before the infection was recognised two other members of the family, a sister aged 10 and a brother aged 4, had contracted the disease. The house was a small room and kitchen in an old decaying property in the Pollokshaws district. Overcrowding was very marked, as the

total number of inmates consisted of the father and mother and 13 children, whose ages ranged from 9 months to 22 years. Specimens from the contacts in the house were examined, but none were found positive. On account of the overcrowding that existed, the family, with the exception of the father and one of the older sons, who was working, was sent to the reception house while their own home was disinfected. No further cases occurred at this time, and after the period of quarantine had elapsed the family was allowed back to their own house. The boy who had taken ill first was dismissed from the hospital, on 16th September, after three negative specimens of urine and fæces had been obtained. His mother, on 9th October, sickened of enteric fever, and thereafter, between the 13th and 24th October, three brothers and one sister were infected. The rest of the family were again examined, and B. typhosus was found in the urine of the boy of 13, who was at once removed to the reception house. There he was treated with B. typhosus vaccine and urinary antiseptics. The urine continued to be positive, although the number of organisms isolated became somewhat less. On 28th January, 1927, he was admitted to Belvidere Hospital for the purpose of special investigation and treatment under the direction of Professor Carl Browning.

When the case was first brought to the notice of the department an endeavour was made to find a bigger house for this family, and arrangements have been made for them to enter one of the houses in the new housing scheme at Auldhouse.

The following table shows the age and sex distribution of the enterica cases :—

Age and Sex Incidence.

	-5		-10		-15		-20		-25		-30		-40		-50		-60		60+	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Enteric, ...	3	2	4	5	1	8	6	4	3	4	2	2	10	2	2	4	3	2	1	—
Para B, ...	—	1	2	2	3	1	1	5	2	3	—	3	1	2	1	3	—	—	—	2
Total, ...	3	3	6	7	4	9	7	9	5	7	2	5	11	4	3	7	3	2	1	2

Total Number of Males, 45 ; Females, 55.

Seasonal Incidence.

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
Enteric, ...	9	10	32	17
Para B., ...	5	7	18	2
Total. ...	14	17	50	19

Note :—It will be seen from this that 50 cases, *i.e.*, 50 per cent. of the total occurred in the third quarter of the year.

Cases Sickening outwith Glasgow, and Places of Sickening.—In all 13 cases were found to have contracted the infection outwith Glasgow. Of these, 10 suffered from enteric fever, and 3 from paratyphoid B. The places of sickening were as follows :—

(1) Scotland.—Greenock, Arbroath, Millport, Wishaw, Kilsyth, and St. Andrews.

(2) Outwith Scotland.—Isle of Man, Ireland, France, Italy, Spain, and Jeddah, Arabia, from which 2 cases were infected.

Cases where more than one Member of the Family were infected.—In five instances this occurred. In 3 cases 2 members of the family were infected, in one 3 members were infected, and in one 8. This last case is described in detail above in connection with the carrier cases.

Ward Distribution.—In Ward 34—Pollokshaws—14 cases occurred, 8 being members of one family, and associated with a carrier case as described in the preceding paragraphs. The two wards which were next most heavily infected were Ward 17—Cowcaddens (9 cases)—and Ward 27—Gorbals (7 cases). Apart from 5 cases in each of the three wards—Townhead, Maryhill, and Kelvinside—the rest of the cases were widely distributed. In 6 wards no case occurred.

The following table of death-rates since 1881 shows the marked decline which is taking place in this affection :—

1881-1890,	...	·230 per 1,000	1922,	...	·011 per 1,000
1891-1900,	...	·215 ,,	1923,	...	·013 ,,
1901-10,	...	·127 ,,	1924,	...	·005 ,,
1911-15,	...	·058 ,,	1925,	...	·013 ,,
1916-20,	...	·023 ,,	1926,	...	·015 ,,
1921, ...	...	·016 ,,			

SCARLET FEVER.

Exclusive of 59 occurring in the added areas, there were 4,684 cases registered in the City in 1926, compared with 3,812 in the preceding year. These represent case-rates per million of the population of 4,252 and 3,472 respectively. This continued upward movement in the number of cases is due largely to the increased child population of susceptible ages referred to in the report of last year, and to the periodic movement of the disease which occurs quite irrespective of the seasonal prevalence. It is probable that the prevalence has now reached its maximum.

There was a considerable rise in the incidence of the disease during the autumn, when the highest number recorded in any one week reached 163. Although the disease was more or less prevalent throughout the City, it was more prevalent at that time in Ruchill Ward and Gorbals, and very general throughout the east end of the City. The fatality-rate then was less than 1 per cent., but taking the figures throughout the year as a whole the morbidity was 1·9 per cent. The highest death-rate from the disease occurred in Mile-end, with a rate of 308, compared with 80 per million for the City.

Of the total cases, 2,071 were males and 2,613 were females, of which nearly 40 per cent. in each sex occurred at the ages 5-10 years.

The death-rate from the disease since 1881 has been as follows:—

1881-90, ...	·490 per 1,000		1922, ...	·069 per 1,000	
1891-1900,	·295	,,	1923, ...	·066	,,
1901-10, ...	·116	,,	1924, ...	·073	,,
1911-15, ...	·163	,,	1925, ...	·062	,,
1916-20, ...	·060	,,	1926, ...	·081	,,
1921, ...	·050	,,			

The number of return cases—*i.e.*, cases sickening after return of a previous case from hospital—has remained at 2 per cent. of the dismissals during the past nine years. Of the return cases, 40 occurred within one week of the hospital dismissal, 37 within two weeks, and 19 over that period.

Secondary Cases.—The number of secondary cases fell to one per cent. The number occurring within one week after disinfection for a previous case was 38, the second week 11, and 8 over that period.

SCHOOL OUTBREAK OF SCARLET FEVER.

Between 27th February and 14th May, 1926, there occurred a series of 10 cases of scarlet fever in one class in a school in the South-Eastern Division.

During this time only a single case of scarlet fever occurred in any other class in this school. The following table shows the weekly incidence of the cases:—

Week ending

Feb.	March				April				May		
27	6	13	20	27	3	10	17	24	1	8	15
1	1	1	—	1	1	—	1	—	2	—	1

When the third case was reported, on 13th March, an inspection of the class was made for "missed" cases of scarlet fever, but none was found, although two suspicious cases were excluded. Sixteen days after the occurrence of the third case, two further cases of scarlatina were notified, and a second medical inspection was made, and again no "missed" cases were detected. From 31st March until 13th April the school was closed for holidays. Four days after the resumption of classes still another case occurred, and, on this occasion, medical inspection revealed the presence of otorrhœa in a boy, eight years old (J.B.). He was excluded from school, although his mother averred that he had not at any time had scarlatina, and that the otorrhœa dated from an attack of measles at three years of age. While J.B. was excluded, two subsequent cases fell ill—the first sickening four days after his exclusion, and the second six days thereafter (presumably infected from the first). As no conclusive proof that J.B. was a "carrier" of scarlet fever could be maintained, he was allowed back to school on 10th May. Four days later, however, another child sickened of scarlet fever. J.B. was again excluded, and his aural condition treated. No further cases then occurred.

The evidence that this epidemic was due to J.B. is circumstantial, but bacteriological examination of the aural and nasal discharges on 18th May revealed a hæmolytic streptococcus. It was concluded that J.B. had suffered at some time from an unrecognised attack of scarlet fever, which had been followed by otorrhœa.

He was excluded from school until after the summer vacation, when he was transferred to another school. A watch was kept on his class, but as no cases were found and the aural discharge, although slight, was still present intermittently, it appeared that this discharge had ceased to be infective.

DIPHTHERIA AND MEMBRANOUS CROUP.

The incidence of diphtheria, although quite definitely in an upward direction, has not been so heavy as in the case of scarlet fever. In 1918 the case-rate of diphtheria was in excess of that for scarlet fever, but the incidence since the war has only been half that of scarlet fever. The rate in 1926 was 2,082, compared with 1,581 during 1925.

In Appendix Table XVII are given the numbers treated at home and in hospital, the latter representing 97 per cent. of the total. The largest number occurred in Parkhead, where there were 119 cases, followed by 115 in both Gorbals and Kinning Park.

The following table shows the death-rates per 1,000 living since 1881:—

1881-90,	... ·280	per 1,000 living.	1921,	... ·120	per 1,000 living.
1891-1900,	... ·231	,,	1922,	... ·128	,,
1901-05,	... ·134	,,	1923,	... ·133	,,
1906-10,	... ·205	,,	1924,	... ·126	,,
1911-15,	... ·187	,,	1925,	... ·103	,,
1916-20,	... ·143	,,	1926,	... ·120	,,

OUTBREAK OF DIPHTHERIA TRACED TO A "CARRIER" IN THE MILK TRADE.

Five cases of diphtheria connected with a certain milk supply sickened on the following dates:—27th April, 30th April, 4th May (2 cases), 10th May.

The milk is pasteurised on the premises, and subsequent to this process is bottled by the owner himself. Throat swabs were taken on 15th May from all employed at the dairy, numbering 13, all of which proved negative, with the exception of that from the owner, which was positive. It was found that he had suffered from a dryness of the throat with a slight cough between 5th and 7th May, but no attention had been paid to this condition. On 16th May he was instructed to cease working in the dairy, and from that date no further cases of diphtheria occurred in connection with this milk supply. No cases of diphtheria were found to be associated with the farms from which daily supplies were obtained.

The owner was found to remain infective, positive bacteriological findings being obtained, until 7th October, 1926. Virulence tests, which were carried out on 21st May and 2nd July, gave varying results; the former being non-virulent and the latter virulent.

The treatment of this "carrier" condition included local antiseptic measures, with carbolic, iodine, glycothymoline, silver nitrate (10 per cent.), and mercurochrome (2 per cent.), but none of these was successful.

On the 3rd of August treatment with a detoxicated diphtheria vaccine was begun with an initial dose of 5,000,000 bacteria. The amount of vaccine injected, together with the result of the swab obtained on the same day, is shown in the following table:—

Date. 1926	Amount. (in millions)	Result of Swab.
Aug. 3	5	None taken.
,, 12	10	Positive.
,, 26	30	None taken.
Sept. 6	50	Positive.
,, 16	100	None taken.
,, 28	150	Positive.
Oct. 7	200	Negative.
,, 18	250	Negative.

The noteworthy feature of this case is the persistence of the diphtheria "carrier" state, in spite of rigorous local treatment for five months. As the condition cleared up under the use of detoxicated vaccine, it might appear that this treatment had been effective.

DIPHTHERIA IN BARLINNIE PRISON.

During the years 1925 and 1926 there has been some anxiety caused to the Authorities of Barlinnie Prison by the occurrence of diphtheria amongst the prisoners. The matter did not come to the notice of the Glasgow Public Health Department until May, 1926, when the area in which Barlinnie Prison is situated was included within the City boundary.

The Acting Medical Officer of the prison, on 10th August, 1926, reported to the Medical Officer of Health that 13 cases of diphtheria had been removed from the prison since the preceding March. These were given as occurring on the following dates :—

27th March,	...	1 case.	15th June,	...	1 case.
29th ,,	...	1 ,,	23rd July,	...	2 cases.
10th June,	...	1 ,,	27th ,,	...	5 ,,
12th ,,	...	1 ,,	8th August,	...	1 case.

He desired assistance from the Public Health Department in taking swabs from all the inmates of the prison. This swabbing was carried out from 17th to 24th August, although it was felt that the procedure would not be of much value. Of 652 swabs examined, 6·6 per cent. were found to produce on culture organisms resembling diphtheria bacilli. In many of those cases reported as positive the numbers of such organisms in the cultures were extremely scanty. In some only one or two beaded bacilli were seen on the slide.

The Prison Authorities wished to place all these positive cases in Corporation isolation hospitals, but this was thought not to be a feasible proceeding. It was advised that the positive cases should be isolated in their cells until the virulence of the cultures obtained from them could be determined.

The Governor of the Prison communicated on the subject with the Prison Commissioners, who in turn placed the question before the Scottish Board of Health, and the position was investigated by one of their medical officers. On making a careful survey of the records of the primary cases previously removed from the prison as diphtheria, it was found that only two showed signs of true clinical diphtheria. The rest had, in many instances, a mere transient sore throat, associated with the presence in culture of a diphtheria-like bacillus. Six of the 652 cultures were subjected to the virulence test, and were all found to be non-virulent. The conclusion to be drawn from the preceding is that what was considered to be an epidemic, in reality only amounted to two cases of mild diphtheria.

The conditions under which the prisoners are isolated would prevent rather than spread an infectious disease such as diphtheria.

In a population of such dimensions as in Barlinnie Prison, where it is mostly transitory, it is impossible to carry out any extensive application of the Schick test and immunisation.

It is also becoming increasingly evident that a positive or negative result on examination of a culture swab from the throat is insufficient evidence on which to base administrative action. Where swabs are taken from cases not in immediate contact with clinical diphtheria, only a report as to virulence is of definite value.

ERYSIPELAS.

There were 1,016 cases of erysipelas during 1926, of which 520 were treated in hospital. During the previous year the cases numbered 1,002. The case-rate for the respective years is 922 per million and 913. In the added areas there were 9 cases. The death-rate of the City was 45 per million of the population, and the highest ward rates were 207 in Pollokshaws and 163 in Cowlairs.

CEREBRO-SPINAL FEVER.

The number of cases registered during the past three years is contained in Table XVII in the Appendix, while the case-rates are given in the Table XVIII. In 1926, 66 cases were registered, 60 of whom were removed to hospital. The number of cases recorded has not exceeded 100 in any year since the prevalence of the disease in 1915 and 1916.

ENCEPHALITIS LETHARGICA.

There was no serious outbreak of encephalitis lethargica in the City during 1926. Notifications received numbered 109, but only 43 of these were regarded as verified cases. There was no association between any of these cases, although almost 60 per cent. of them occurred in the Northern Division of the City. The disease would seem to be endemic in the City.

As in former years, it was found that many cases of the disease were missed in the early stages, and only diagnosed on the recognition of characteristic sequelæ. The inclusion of such cases of "post encephalitis" tends to obscure any comparison of the incidence from year to year.

An analysis of the 43 confirmed cases is given in the following table:—

Division.	Cases Sickening in Glasgow during 1926.	Sequelæ of Encephalitis Lethargica.	Cases Sickening outwith City: Notified in City.	No. of Cases Confirmed.
Central, ...	2	1	—	3
Northern, ...	11	13	1	25
Eastern, ...	3	—	—	3
South-Eastern, ...	—	2	—	2
South-Western.	4	6	—	10
Total, ...	20	22	1	43

The above analysis shows that the number of cases of encephalitis lethargica sickening in Glasgow during 1926 was only 20 out of the total 43 notified. Of the 43 confirmed cases, 22 proved to be suffering from the sequelæ of the disease. The majority of these cases were brought to the notice of the department owing to the desire of parents or guardians to have then treated in Stobhill Hospital, where a ward for the treatment of the sequelæ of the disease was provided, under arrangement by the Scottish Board of Health. A charge of 7s. per day is made. The approximate number of beds available for cases from Glasgow is 20. The number admitted since August, when the ward was opened, is 24, of whom 2 were dismissed and 1 died by the end of the year.

Mortality.—During 1926, 42 deaths were certified as "encephalitis lethargica." The disease was of the chronic type in 32 instances, and in 17 the patient died from inter-current disease; while 15 deaths were certified as "sequelæ of encephalitis." Of the 10 cases who died of acute encephalitis lethargica, 3 also suffered from pneumonia.

The circumstances which led to the provision of beds for patients suffering from the late effects of sleepy sickness are related in the following report to the Health Committee:—

REPORT ON ENCEPHALITIS LETHARGICA (SLEEPY SICKNESS).

At the meeting of the Committee on Health, on 25th August, it was remitted to me to report on the after-effects of encephalitis lethargica (sleepy sickness), with special reference to institutional provision.

In Glasgow this affection was first recognised in May, 1918, and the Local Authority made it notifiable in September of that year. There was a small outbreak in 1920, and two considerable ones in 1923 and 1924. It has been the policy of the Committee to provide institutional accommodation in the fever hospitals for the treatment of these patients in the acute stage, and the majority have been so treated.

It is, however, a feature of this disease that serious and permanent damage to the brain is a very frequent result. A high proportion develop disabling consequences, between which and the original illness a long interval may elapse. The problem at the moment is, therefore, provision for the late results of the disease rather than its treatment in the early and acute stage.

The extent of the problem in Glasgow is difficult to estimate. The whole position as it existed at the close of 1925 was reviewed in last year's Annual Report, from which the following statistical facts are taken :—

INCIDENCE OF THE DISEASE.

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1919, ...	—	13	1923, ...	110	26
1920, ...	61	20	1924, ...	391	46
1921, ...	28	11	1925, ...	73	48
1922, ...	20	10			

There have been reported from year to year 683 patients, of whom 174 have died, leaving some 500 as still alive, who have either recovered or now present some degree of impairment. The proportion who do not recover completely may be estimated roughly at 50 per cent., and those who recover with serious incapacity at roughly 30 per cent. The problem is thus one of uncertain dimensions, but would involve between 150 and 200 patients as an approximate estimate. A number of these (approximately 64 patients) are at present accommodated in Poor Law institutions, and several are in asylums.

Institutional Provision.—On 4th March a meeting of representatives of Local Authorities and others interested was held in Edinburgh at the instance of the Board of Health to discuss the position as regards Scotland. A circular was subsequently issued by the Board, intimating that sixty beds had been set aside in Stobhill by the Glasgow Parish Council as a preliminary measure, and Local Authorities were invited to send applications to the Board, who undertook to allocate the beds, the charge being 7s. per day. The Health Committee, at their meeting on 25th August, agreed to make use of this facility for an experimental period of one year, and 18 patients from Glasgow are now in residence at Stobhill. These are additional to the number given above as inmates of Poor Law institutions. The question of still further provision has recently been under consideration.

These transactions raise the question of the function of the Local Authority. At the outset there is the difficulty that many of these patients have a mental affliction with or without a varying degree of physical disability. They are difficult to control at home or in an institution. They occupy a niche somewhere between insanity and mental deficiency, and would be more properly dealt with in the institutions of the Board of Control than in hospital wards. Unfortunately the definition of mental defect is apparently not broad enough to enable them, especially children, to be certified, but a Bill is being introduced into Parliament to widen the definition, for the sole purpose of enabling these types of patient to be included. Others again show perversion of conduct, which makes them difficult to

manage at home, and even brings them into the Police Court, a condition almost amounting to moral insanity: for these a hospital ward is not a very suitable place other than for observation purposes.

The principal object, therefore, as I conceive it, of the Stobhill arrangement is (*a*) to provide a *locus* for observation before drafting individual patients to proper quarters (as has been pointed out, the arrangements for this are by no means settled); and (*b*) to provide a *locus* for treatment of such patients as may improve by residence in a hospital ward, for the study of the disease, and for the trial of various remedies. Experience so far has shown that temporary benefit may accrue under these circumstances.

There is, however, a considerable residue of patients who are seriously and permanently incapacitated, some just able to get about, others bedridden and difficult to manage, for whom the ward staff has to be on a liberal scale. They are slow in their movements, slow in mind, slow in speaking, walking, or eating, along with muscular disability. It is for this group especially that permanent institutional accommodation is required.

All these types of cases are of protracted duration, and the outlook is for the most part hopeless, at any rate as far as is at present known. Although their condition is apparently the result of an infection, there is no evidence that they are in an infective condition, and the problem is one of maintenance and alleviation of symptoms, institutional for their own sakes and for that of their relatives on the score of home difficulties in looking after them.

For these purposes the Local Authority has no suitable accommodation. The limitations of a hospital ward are obvious, unless for observation, study, and the sifting of cases to proper institutions. The Board of Health recognise this, and is giving the problem further consideration.

I consider, therefore, that until the position is cleared the Committee on Health should limit their responsibility to approving of the arrangements for the reception of patients at Stobhill made with the Glasgow Parish Council by the Board of Health.

26th November, 1926.

A REVIEW OF ENCEPHALITIS LETHARGICA IN GLASGOW.

Dr. Andrew Davidson.

General.—Encephalitis lethargica was first recognised in Glasgow during the early months of 1918. On the 3rd September of that year this disease, in addition to anterior poliomyelitis and polio-encephalitis, became compulsorily notifiable. Very few cases came to the notice of the Health Department until 1920, when the case-rate per million was 56. The cases at that time were widely distributed over the City, sickening during the late spring and early summer. The disease was characterised by the sudden onset of fever, spasmodic muscular movements and lethargy, often followed by paresis or paralysis of groups of muscles. During 1921 and 1922 its incidence in Glasgow was comparatively low, but towards the end of 1923 there were signs of a recrudescence in epidemic form. At this time the disease was again widely distributed over the City, and manifested itself in a pronounced irritative stage, with delirium accompanied by fever, nocturnal restlessness, spasmodic muscular movements and ophthalmoplegic signs, the chief being diplopia. The case-rate per million in 1923 rose to 103, and this rise in incidence proved to be the commencement of a large epidemic wave, which reached its crest in 1924, the case-rate per million during that year being 357. During 1925 and 1926 comparatively few definite cases occurred, although 45 confirmed cases of acute encephalitis lethargica were present in the former year and 20 in the latter year.

Over the short period from 1918-1926 the disease has varied in type and virulence, whilst its constant presence suggests that it has become endemic in the City.

The most serious aspect of this new infection, and one which has given rise to an acute administrative problem, is the development of sequelæ, which impair seriously the mental and physical functions of the encephalitic. The time elapsing between the acute stage and the development of sequelæ is variable, being expressed in terms of months, and, in many cases in terms of years. Cases are brought to the notice of the Health Department where the patients had their acute stage of the illness several years previously. In such instances the early stage of the illness was so mild as to pass unrecognised, or the original indisposition resembled some other complaint such as influenza. For these reasons, it is extremely difficult to assess accurately the incidence of encephalitis lethargica for a given year, and a review over a period of years would help to minimise inaccuracy.

An effort is made in these notes to review the problem of encephalitis lethargica in Glasgow in the period extending from 1918 to 1926 inclusive.

Incidence.—The method adopted for the purposes of this review was the preparation of a history card for each notified case, and also for each case under the supervision of other Authorities in Glasgow, such as the Education Authority, the Parish Council, and the various general hospitals over the period 1918-1926. From January to May,

1927, all cases were followed up, and much interesting information has been collected. Table I gives an analysis of the distribution at May, 1927, of the 909 patients who contracted encephalitis lethargica in Glasgow during the period 1918-1926 inclusive :—

TABLE I.

Patients at home, ...	468
Patients in hospitals, ...	61
Patients in Mental hospitals, ...	26
Deaths during period, ...	205
Patients untraced, ...	81
Patients notified in Glasgow, but resident outwith City, ...	68
Total, ...	909

From these figures it would appear that only a small proportion require hospital treatment, but this is not so. The majority of the patients have been treated at one time or another in infectious disease hospitals.

The number of cases in hospital, as expressed in Table I, refers almost entirely to the Glasgow cases in the Poor Law hospital at Stobhill, under arrangements made by the Scottish Board of Health.

The number of cases in mental hospitals is not a true reflection of the mental disturbances which frequently follow the acute disease, as comparatively few of the patients are certifiable under the Lunacy Acts, but the definition of mental deficiency is being readjusted to meet the case of the post-encephalitic.

TABLE II.—AGE AND SEX INCIDENCE.

	-1	-5	-10	-15	-25	-35	-45	-55	55+	Total.
Male, ...	4	24	58	75	112	44	55	40	21	433
Female, ...	7	18	34	32	90	52	28	28	12	301

The 734 cases included in Table II comprise 468 cases in the district, 61 cases in hospital, and 205 who died. Over this large series of cases the sex distribution is 59 per cent. males and 41 per cent. females. No age is immune to the infection, and the maximum incidence in both sexes is between 15 and 25 years. At school age the incidence is higher in males—as it is generally—133 cases occurring in males and only 66 cases in females. In the age-group 25-35 years the incidence is higher in females than in males, and represents chiefly those classified under occupation of "domestic."

Mortality.—Out of the 909 cases of the group, there were 205 deaths, representing a mortality from encephalitis lethargica of 22·5 per cent. over the period 1918-1926 inclusive :—

TABLE III —(*a*) AGE AND SEX DISTRIBUTION OF DEATHS.

	-1	-5	-10	-15	-25	-35	-45	-55	55+	Total
Males, ...	4	9	6	8	18	10	20	16	14	105
Females,	7	8	7	6	18	18	10	17	9	100

The case-mortality in both sexes is equal approximately, but as there is a lower incidence in females the mortality in the female sex is relatively higher than in the male sex.

The case-mortality in infants under one year is 100 per cent. (*cf.* Table II). The mortality diminishes during school age and adolescence, but gradually increases in the age-groups from 35-45 years upwards, especially among females.

(*b*) Year of Death.

1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	Unknown	Total
1	—	15	10	5	31	47	47	35	9	5	205

(*c*) Time of Death after Onset.

	Months									
Sex	-1	-3	-6	-12	-18	-24	-36	36+	Unknown	Total
Males, ...	45	17	7	9	3	5	7	3	9	105
Females, ...	60	10	5	11	1	1	4	3	5	100

Table III (*b*) and (*c*) are placed against each other for reference, as several interesting features may be appreciated by a comparison. There were 160 deaths from encephalitis lethargica during the period 1923-1926 inclusive, *i.e.*, 78 per cent. of the total deaths from the disease during the period 1918-1927 (to May). The relatively high numbers of deaths in 1923 and 1924 are referable to the epidemic prevalence of the disease during these years. How can the high mortality during 1925 and 1926, years of low incidence, be explained? The obvious answer is that the deaths recorded in these years were cases of the 1924 epidemic, who died 1-2 years later. If this reply be accepted, the 15 deaths in 1920—the first year of prevalence of the disease—would include cases from previous years. In the previous years the disease was not prevalent, and so with 1923: in this latter year the relatively high number of deaths followed years when the disease was at a low incidence. Whilst certain cases have overflown into statistics for subsequent years, the real explanation may be found in a higher virulence of the disease during 1925 and 1926.

Table (*c*) shows that of the 205 deaths from encephalitis lethargica, 105, or more than 50 per cent., occurred within one month of the onset of the disease; and 132, or 64 per cent., were registered within three months of the commencement of the original illness. These figures support the argument in favour of increased virulence of the disease during 1925 and 1926.

Table IV.—Year of Onset.

1918	1919	1920	1921	1922	1923	1924	1925	1926	Unknown	Total
3	6	24	10	12	64	328	49	30*	3	529

Many cases of the disease pass unrecognised or undiagnosed in the acute stage, until the appearance of a characteristic sequela determines the nature of the original illness. The statistics for any given year are complicated by notified cases of the sequelæ; the above Table (IV) indicates the actual year of sickening of the 529 cases of encephalitis

* Includes cases confirmed between January-May, 1927.

lethargica in the district and in hospital. These figures show the increase in incidence of the disease during 1923, rising to the epidemic peak in 1924, and falling during 1925 and 1926; they also show that the infection has been ever present in Glasgow since its recognition in 1918—in other words, it shows its endemicity.

TABLE V.—OCCUPATION.

	Males	Females	Total
Under School Age, - - - - -	15	7	22
Scholars, - - - - - - -	110	51	161
Domestic, - - - - - - -	—	78	78
Indoor, - - - - - - -	99	60	159
Outdoor, - - - - - - -	99	4	103
Doubtful, - - - - - - -	5	1	6
Total, - - - - - -	328	201	529

The above table confirms the view that encephalitis lethargica is more prevalent in persons occupied indoors. To the 159 cases so classified fall to be added 78 for domestic workers and 161 scholars, both these categories referring to indoor workers. Therefore the number of persons working indoors becomes 398, or 75 per cent. of the total cases.

Another noteworthy feature is the number of scholars affected, viz., 161, or 30 per cent. of the total cases.

TABLE VI.—HOUSING.

	1 Apartment.	2 Apartments.	3 Apartments.	Over 4 Apartments.	Total.
1 occupant, ...	1	1	—	—	2
2 occupants, ...	8	11	2	2	23
3 ,, ...	11	31	7	1	50
4 ,, ...	19	42	14	7	82
5 ,, ...	10	50	8	4	72
6 ,, ...	14	53	15	5	87
7 ,, ...	9	41	17	5	72
8 ,, ...	4	40	7	8	59
9 ,, ...	—	17	5	1	23
10 ,, ...	1	12	2	—	15
Over 10 occupants, ...	—	11	3	2	16
Total, ...	77	309	80	35	501

The above table sheds no light on the epidemiology of the disease. To find more than one case in a family is a rarity, and only in three instances have two definite cases occurred in the one house. There are numerous examples of a definite case of encephalitis lethargica in one member of a family, and vague clinical evidence of a possible abortive type in others.

Of the 529 cases examined regarding housing conditions, in 28 information was not available. The distribution in Glasgow is chiefly in two-apartment houses, but this is the prevailing house—almost 50 per cent. of Glasgow houses being of the two-apartment type. However, 61 per cent. of the total cases occurred in that size of house.

From the figures it cannot be said that overcrowding is a striking factor in the incidence of the disease.

Sequelæ.—As has been pointed out previously, the chief problem of encephalitis lethargica appears to be that of the post-encephalitic who has been afflicted with one of the many tragic sequelæ of the disease. The chief object of this review has been to estimate the degree of this problem in Glasgow, for sufficient time has elapsed since the large epidemic of 1924 to assess the number affected by sequelæ. As in the assessment of incidence of the disease, numerous difficulties intervene. The after-effects of encephalitis lethargica are protean in their manifestations, and vary much in intensity. It would be fairer and easier to assess fitness for work or for school. Many post-encephalitics suffering from minor sequelæ are attending work or school, and are not fully conscious of any disability, which may only amount to a slowness of movement.

In this group of 529 cases examined a careful scrutiny of each case has been made, and it was found that 337 had developed sequelæ, while 179 appear to have escaped so far. In 13 instances the information was doubtful.

Therefore 65 per cent. of the 516 cases (excluding the 13 doubtful cases) suffered from sequelæ following the acute attack of encephalitis lethargica.

Fitness for Work or School.—As many of the sequelæ were of a minor nature, an estimate was made of those fit for work or school. The same group, as above, of 516 cases was investigated. Of this number, 253, or 49 per cent., were fit for work or school, whereas 263 cases, or 51 per cent., were unfit for either work or school.

Classification of Cases developing Sequelæ.—A classification of patients suffering from the sequelæ of encephalitis lethargica is very difficult, owing to the varied forms in which these sequelæ manifest themselves. An arbitrary classification employed in Glasgow, and explained in the report of the Medical Officer for 1925, is as follows:—A—Child (−16 years).—(1) Restless; (2) refractory; (3) Parkinsonian. B—Adult (+16 years).—(1) Irritable; (2) Parkinsonian.

According to this arrangement of post-encephalitis, the 337 patients who developed sequelæ, out of the 529 cases investigated, are divided thus:—

TABLE VII.

PARKINSONIAN,	Adult,	159	
	Child,	50	
			209
RESTLESS CHILD,			45
REFRACTORY CHILD,			31
IRRITABLE ADULT,			52
Total,			337

There were thus 209 patients (out of 337) who developed the Parkinsonian phase of the disease, *i.e.*, 62 per cent., and this number was chiefly made up of adult cases.

TABLE VIII.—TIME OF ONSET OF SEQUELÆ AFTER ORIGINAL ILLNESS.

—3 Mths	—6 Mths	—9 Mths	—12 Mths	—15 Mths	—18 Mths	—24 Mths	+24 Mths	Unknown	Total
141	100	13	21	14	8	10	14	16	337

The undiagnosed and missed cases have been mentioned in a previous section; these cases are diagnosed on the appearance of the sequelæ, and complicate the statistics of the acute disease for any given year. Invariably, however, the diagnosis is only made from a late sequela such as Parkinsonism. In the above Table VIII the earliest after-effect was registered, and the analysis shows an early development of sequelæ in most cases. In 71 per cent. of cases sequelæ appeared within six months of the onset of the acute illness, and in the greater number of these cases the after-effects appeared within three months from the original illness. In some cases the appearance of sequelæ was delayed—in 14 cases the aftermath appeared more than two years after the primary attack of acute encephalitis lethargica. In this group of 337 cases the maximum interval elapsing between the acute illness and the first manifested sequelæ was almost four years.

PARKINSONIAN CASES.

Total Number, ...	209
Number in hospital, ...	53
Number in district, ...	156

ANALYSIS OF 156 CASES OF PARKINSONISM IN DISTRICT.

	Occupants							
Housing	1	2	3	4	5	6	6+	Unknown
1-Apartment, ...	—	4	4	3	1	4	5	—
2-Apartments, ...	—	4	15	12	11	13	37	—
3-Apartments, ...	—	—	2	6	2	5	16	1
+3-Apartments, ...	—	1	—	1	—	1	7	—
Institution, ...	—	—	—	—	—	—	—	1

37 cases are living in two-apartment houses where there are more than 6 inmates. In 2 of these cases there are 11 inmates in the same house; in other 2 cases there are 12 inmates in the same house (one of these patients requires constant attention); in 1 case requiring constant attention there are 13 inmates in the same house; and in another instance, a Parkinson case requiring constant attention is accommodated in a two-apartment house where there are 16 inmates.

Of the 156 Parkinson cases in the district, 4 are fit for light work or special school and 152 are unfit.

61 cases require constant attention, and 12 cases are beyond the control of parents or guardians.

MEASLES.

The introduction of Hollerith tabulating machines during the year made it possible for the department to carry out an extended statistical inquiry with regard to measles which had been present in the City in epidemic form during the winter 1925-26. For the purposes of the inquiry, information was tabulated with regard to all cases registered between 1st July, 1926, and 30th June, 1927, and on these the following tables have been made. The tabulated statements have been made use of, and incorporated with other departmental records in a rather extended memorandum by Dr. J. L. Halliday, one of the assistant medical officers of the department, dealing with questions of epidemiology, school and tenement infection. The following extract from his report contains the broad data referable to the epidemic itself, and gives facts now obtained for the first time:—

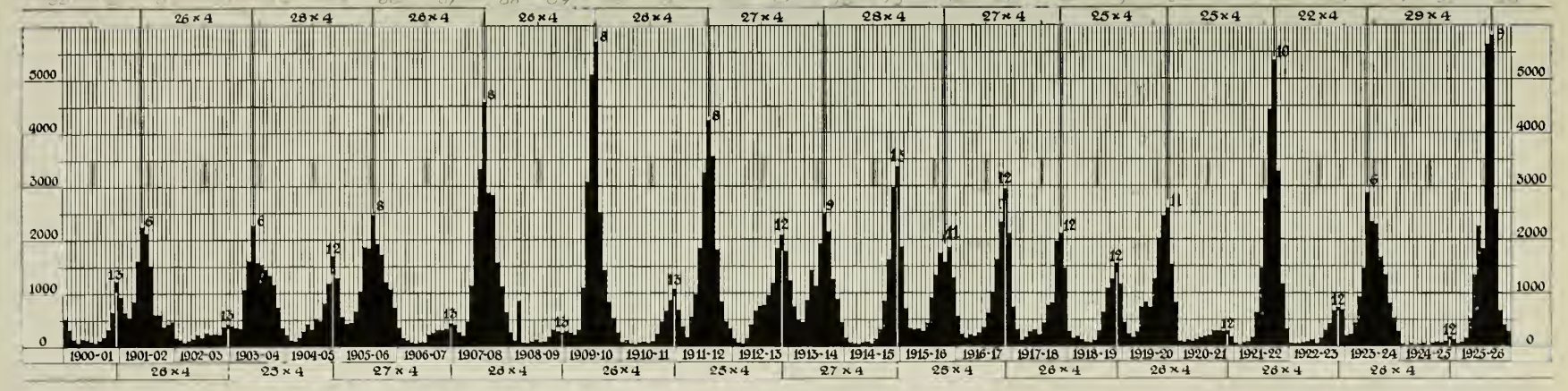
The Periodicity of Measles in Glasgow during the last 25 Years.—A chart is inserted to show the very striking distribution of measles in Glasgow during the first quarter of this century. For the purposes of its construction each annual period is taken to begin on July 1st of one year and to end on June 30th of the following year. Each annual period may thus be described as belonging to an "odd-even year," *e.g.*, July 1st, 1901, to June 30th, 1902, or to an "even-odd year," *e.g.*, July 1st, 1902, to June 30th, 1903. Further, each annual period is divided into thirteen four-weekly periods, and the number of cases notified to the Public Health Department during each four-weekly period forms the basis of the graph. The four-weekly periods are numbered from 1 to 13, but on the chart is shown only the number of that four-weekly period in which each epidemic wave attained its maximum. The date of termination of each four-weekly period is given in the table included on the chart.

For the purpose of describing the chart, the system of epidemics occurring in the "odd-even annual periods" is considered as separate from the system occurring in "even-odd annual periods." The following points should be noted:—

(1) The odd-even system of peaks predominates both in frequency and in extent.

PERIODOGRAM.

MEASLES IN GLASGOW, 1900–1926.



(2) The maxima of these predominating peaks are only to be found between the limits of the sixth and eleventh four-weekly periods, *i.e.*, from the end of November to the end of April. This incidence is in striking contrast to that found in the even-odd system, where the maxima of the peaks are to be found on the twelfth and thirteenth four-weekly periods, *i.e.*, between the beginning of May and the end of June.

(3) In the predominant or odd-even system of epidemics there is a progressive moving forward of the maximum period until 1923-24, when there is a sudden jumping back from March to the beginning of December. Beginning at 1901-2 the numbers of the maximum periods of this system run thus:—6, 6, 8, 8, 8, 8, 9, 11, 11, 11, 10, and then 6, 9.

(4) As the result of the movements of the maxima of the epidemics, it follows that the intervals between the crests are somewhat irregular, varying from 25 to 28 four-weekly periods, *i.e.*, from 104 to 108 weeks. The main exception to this is seen in the short interval of 22 four-weekly periods between the outbreaks of 1921 and 1923, which is succeeded by the long interval of 29 four-weekly periods between the outbreak of 1923-24 and that of 1925-26.

(5) There is a definite rise and fall in the extent of the predominating epidemic, which reached a maximum in 1909-10. A minimum is then reached in 1915-16, and another maximum is reached in 1925-26. It will again be noted how the outbreak of 1923-24 falls out of place in respect of this rise-and-fall movement over a period of years. A similar rise and fall is seen in the secondary system of peaks which belong to the even-odd annual periods, and it would seem that an inverse relationship exists between the two systems in this respect.

The periodogram shows that measles is an endemic disease, with annual outbursts which, however, show a tendency to concentrate on alternate years. There are two periods when the maxima of measles tend to predominate, viz., round the New Year and in May-June. From this standpoint measles may be regarded as potentially a bi-annual disease.

The Continuous Prevalence of Measles in Glasgow and the Maintenance of its high Death-rate compared to that of other Infectious Diseases.—Owing to the greater number of individuals now living in the adult years of life, the trend of the commoner infectious diseases which are found in childhood cannot be measured against the general population. The following table is, however, of much interest, in that it shows the death-rate from scarlet fever, diphtheria, whooping-cough, and measles

calculated against the child population under 10 which existed at the various five-yearly periods from 1860:—

GLASGOW.—DEATH-RATES PER MILLION CHILDREN UNDER 10 YEARS.

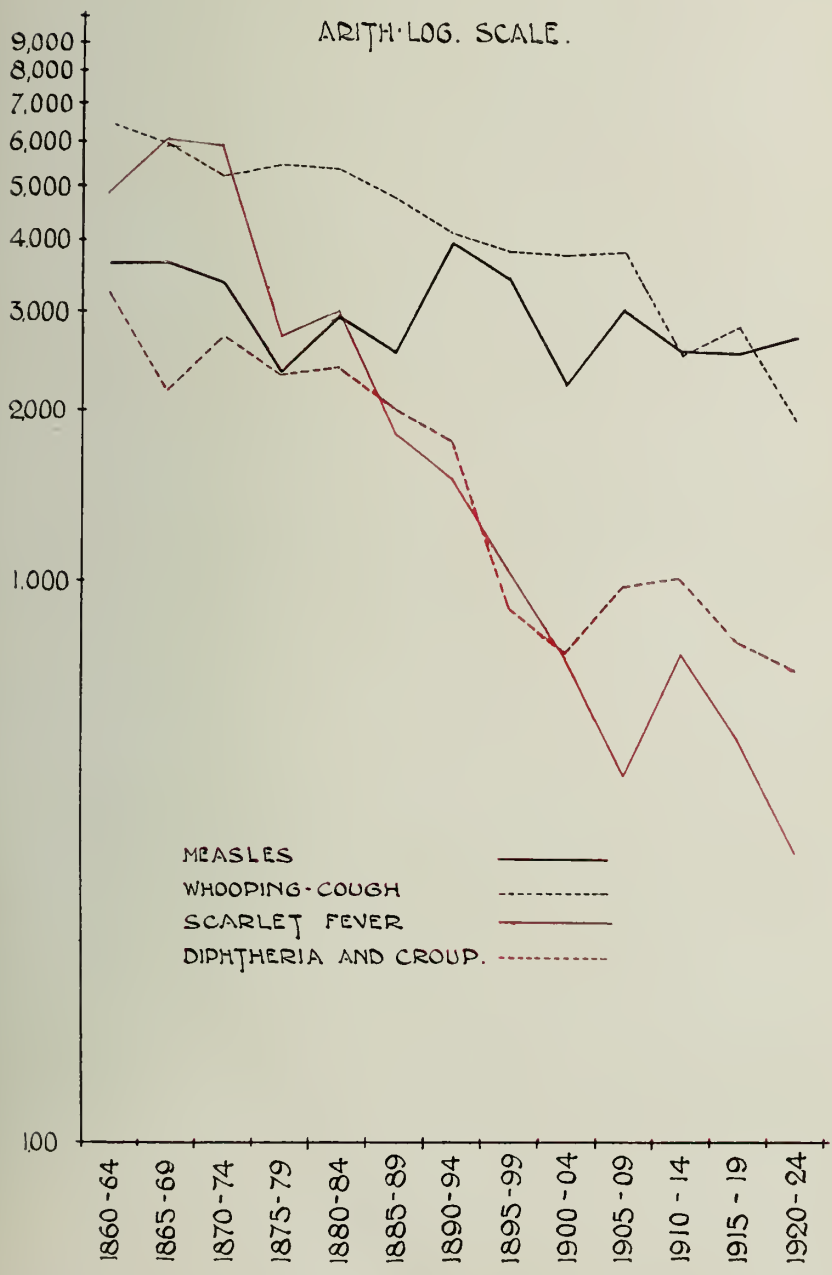
	Scarlet Fever.	Diphtheria and Croup.	Whooping-Cough.	Measles
1860-64, ...	4,724	3,165	6,480	3,663
1865-69, ...	5,860	2,106	5,954	3,687
1870-74, ...	5,732	2,627	5,202	3,376
1875-79, ...	2,631	2,252	5,454	2,351
1880-84, ...	2,942	2,308	5,379	2,942
1885-89, ...	1,777	1,969	4,755	2,536
1890-94, ...	1,478	1,707	4,108	3,956
1895-99, ...	1,019	874	3,830	3,404
1900-04, ...	710	722	3,798	2,247
1905-09, ...	441	957	3,823	3,036
1910-14, ...	721	993	2,535	2,558
1915-19, ...	514	763	2,865	2,583
1920-24, ...	323	683	1,939	2,737

The above figures have been plotted on an arith-log. scale (see chart), and the resulting graph shows that the death-rate from scarlet fever has fallen with phenomenal rapidity, declining from 5,860 per million in 1865-69 to 323 in 1920-24. The present death-rate is only 5·5 per cent. of that of sixty years ago. Diphtheria and croup also show a considerable reduction, the figures for 1920-24 (683) being only 21·5 per cent. of the rate for 1860-64 (3,165). Whooping-cough has also declined steadily, though not to the same extent, the figures for 1920-24 (1,939) being 30 per cent. of the rate for 1860-64 (6,480). When we turn to measles we find that only a slight decline has taken place, and this is irregular. If we compare the death-rate of 1860-64 (3,663) with that of 1920-24 (2,737) we find that the present-day figures represent 74·4 per cent. of those obtaining in the middle of last century. It is thus evident that among the forces of mortality in childhood measles maintains its prominence. Epidemics of measles occur and recur, and the deaths associated with them have fallen only slightly. As far as a great city is concerned, the instruments of notification, isolation, disinfection, and school closure have alike been ineffective.

THE STATISTICS OF THE 1925-26 EPIDEMIC.

The period in which the following statistics were derived covered the nine months from 1st September, 1925, to 31st May, 1926. During that time 21,179 cases were reported to the department, and special

Glasgow.—Death-Rates per Million Children under 10 years of age from Measles, Whooping-Cough, Scarlet Fever, and Diphtheria and Croup, in quinquennia, 1860–1924.



details were obtained by the inspectors in 20,594 of these. To indicate the seasonal distribution of this epidemic the following table has been drawn up to show the four-weekly returns of measles during the years 1925-26 :—

Four-Weekly Periods	1	2	3	4	5	6	7	8	9	10	11	12	13
1925, ...	18	40	76	92	83	154	189	45	81	159	503	1,353	2 235
1926, ...	1,836	5,646	5,822	2.555	687	399	299	24	12	26	44	50	65

Age and Sex Distribution.—The following table shows the age and sex distribution of cases :—

Age	Males	Females	Total	Percentage of Total
– 1	606	567	1,173	5·7
– 2	1,243	1,218	2,461	11·9
– 3	1,374	1,346	2,720	13·2
– 4	1,371	1,349	2,720	13·2
– 5	1,170	1,213	2,383	11·6
– 6	2.108	2,157	4,265	20·7
– 7	1,464	1,535	2,999	14·6
– 8	419	469	888	4·3
– 9	149	163	312	1·5
– 10	78	105	183	0·9
– 15	116	166	282	1·4
15 +	35	152	187	0·9
Not stated,	15	6	21	0·1
	10,148	10,446	20,594	100·0

It will be seen that the sexes are attacked more or less equally during childhood; after the age of 15 there is a very considerable preponderance of females. Regarding age, the maximum number of cases was found to occur between the ages of 5-6 and 6-7, which account for more than one-third of the total. As two years had elapsed before the last considerable outbreak, these figures show the influence of schools in exaggerating infection. This matter will be dealt with more fully later on. As notification is not compulsory, there can be little doubt that a certain proportion of cases occurring in the City are not brought to the notice of the department. The deficiency, which is probably considerable, must exist largely among the age-group under five.

Measles in Relation to Immigrants.—The following table shows the age and sex distribution of cases, distinguishing those born in Glasgow from those outwith :—

	Cases Born in Glasgow.				Cases Born outwith Glasgow.			
Age	Males.	Females.	Both Sexes.	Percentage of Total.	Males.	Females.	Both Sexes	Percentage of Total.
– 5, - -	5,699	5,598	11,297	57·0	65	95	160	21·9
– 10, - -	4,015	4,197	8,212	41·4	203	232	435	59·6
– 15, - -	97	150	247	1·2	19	16	35	4·8
– 20, - -	10	18	28	0·1	3	15	18	2·5
– 25, - -	3	22	25	0·1	10	32	42	5·8
25 + -	3	25	28	0·1	6	33	39	5·3
Not stated,	14	6	20	0·1	1	—	1	0·1
	9,841	10,016	19,857	100·0	307	423	730	100·0
Percentage,	49·6	50·4			42	58		

Whereas of cases born in Glasgow males and females are attacked in practically equal proportions, among the immigrants females definitely predominate. Among the immigrants of both sexes a larger proportion of cases is found in young adults than is found among the native born.

Of the 594 cases where information was obtainable (see below) it is found that the largest proportion of cases occurred among those immigrants who had resided in Glasgow for less than two years. These comprise 38·3 per cent. of the total immigrants affected. On the other hand, the table shows how children may spend a considerable period in Glasgow before contracting the disease :—

STATEMENT SHOWING AGES AT SICKENING OF CASES BORN OUTWITH GLASGOW IN RELATION TO THE NUMBER OF YEARS SINCE ARRIVAL.

Age	Number of Years in Glasgow.							Total
	–1	–2	–3	–4	–5	5+	Not Stated	
–5, - -	42	38	27	20	6	—	27	160
–10, - -	51	50	54	47	72	77	84	435
–15, - -	2	4	4	2	2	14	7	35
–20, - -	9	3	2	—	—	1	3	18
–25, - -	10	10	5	7	1	3	6	42
25+ - -	4	5	2	3	2	15	8	39
Not stated, -	—	—	—	—	—	—	1	1
	118	110	94	79	83	110	136	730
Percentage where information is available, -	19·8	18·5	15·8	13·3	13·9	18·5		

The Admission of Measles Cases to Hospital.—Of the 20,594 cases of measles in which particulars were obtained, 2,063, that is 10 per cent., were admitted to hospital. It is interesting to note that since 1898 the average percentage of cases of measles admitted to hospital is 10·7. The uniformity of this figure throughout those years suggests, as Dr. Chalmers remarked in 1908, that there has been "an almost mechanical adherence to the standard for selecting cases." The age and sex distribution of the cases in the epidemic under review are shown in the following table :—

HOSPITAL CASES.—NUMBERS ADMITTED ACCORDING TO AGE AND SEX.

Age	Males	Females	Total	Total cases notified	Percentage removed to Hospital
–1 year ...	102	115	217	1,173	18·5
1 ,, ...	277	260	537	2,461	21·8
2 years, ..	206	182	388	2,720	14·3
3 ,, ...	152	139	291	2,720	10·7
4 ,, ...	88	83	171	2,383	7·2
5 ,, ...	71	84	155	4,265	3·6
6 ,, ...	58	42	100	2,999	3·3
7 ,, ...	9	16	25	888	2·8
8 ,, ...	6	6	12	312	3·8
9 ,, ...	4	7	11	183	6·0
10–14 ,, ...	3	16	19	282	6·7
15–19 ,, ...	6	24	30	48	62·5
20–24 ,, ..	7	64	71	71	100·0
25–29 ,, ...	5	20	25	39	64·1
30+ ,, ...	2	9	11	29	37·9
Not stated, ...	—	—	—	21	—
	996	1,067	2,063	20,594	10·0

It will be noted that one-fifth of the cases of measles in children under two years of age received indoor treatment. The percentage then falls to the age of seven, when only 2·8 per cent. of cases were admitted to hospital. It may be taken as a general rule that the selection for admission to hospital in the case of children is made primarily on the severity of the illness. Notices indicating the type of case suitable for indoor treatment are frequently circulated by the Medical Officer of Health to the general practitioners of the City. In the young adult years another standard for hospital admission becomes more prominent, namely, the danger to others in the household. Thus, in the age-group 20-24, all cases notified to the department were admitted to hospital, and these were mainly made up of domestic servants and lodgers.

The Complications of Measles as revealed by a Study of Hospital Cases.—The following table shows the distribution of various outstanding complications which occurred in the cases of measles admitted to the fever hospitals. In patients in which several complications occurred each individual complication is included in the table :—

HOSPITAL CASES.—COMPLICATIONS PRESENT DURING RESIDENCE.

	Age.						
	—1 Year	—2 Years	—3 Years	4 Years	—5 Years	5+Years	Total
Pneumonia, -	90	218	119	77	35	49	588
Enteritis, - -	99	160	78	29	7	11	384
Otorrhœa, - -	29	71	41	34	17	23	215
Diphtheria, -	3	12	10	4	3	4	36
Corneal Ulcer, -	1	5	7	5	3	4	25
NUMBER PER 100 CASES AT EACH AGE.							
Pneumonia, -	41	41	31	26	20	11	29
Enteritis, - -	46	30	20	10	4	2	19
Otorrhœa, - -	13	13	11	12	10	7	10
Diphtheria, -	1	2	3	1	2	1	2
Corneal Ulcer, -	—	1	2	2	2	1	1

It will be noted that pneumonia falls most powerfully on infants under two years, attacking 41 per cent. of these, but after that age it shows a progressive diminution. Enteritis shows a similar distribution, and attacks 46 per cent. of infants under one year of age. Otorrhœa, diphtheria, and corneal ulcer were more equally distributed as regards age.

The Causes of Death among the Cases of Measles admitted to Hospital.—Of the 2,063 cases admitted to hospital, 317, that is 15·4 per cent., died, whereas of the 18,531 cases treated at home, 238, that is 1·3 per cent., died. This excess of hospital deaths over home deaths is directly dependent on the standard of selection for admission, to which reference has already been made.

The following table shows the age and sex grouping of the deaths in hospital, and also indicates broadly the principal causes of death.

Deaths in Hospital.—Cause and Age and Sex Distribution.

Cause of Death	Age (Years) -1 M	-1 F	1 M	1 F	2 M	2 F	3 M	3 F	4 M	4 F	5 M	5 F	6 M	6 F	7 M	7 F	10+ M	10+ F	Total
Pneumonia, ...	17	21	39	40	19	12	11	6	3	3	2	2	2	—	—	1	—	1	179
Enteritis, ...	9	5	16	8	4	—	1	2	—	—	—	—	—	—	—	—	—	—	45
Pneumonia and Enteritis,	7	8	19	15	2	4	2	1	—	1	—	1	—	—	—	—	1	—	61
Croup—Non-diphtheritic,	—	—	1	1	2	1	—	—	—	2	—	—	—	—	—	—	—	—	7
Diphtheria, ...	1	1	3	2	2	—	—	—	—	—	—	1	—	—	—	—	—	—	10
Miliary Tuberculosis, ...	—	—	3	—	—	—	1	—	1	—	—	2	—	—	—	—	—	—	7
Toxæmia, ...	—	1	3	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	5
Nephritis, ...	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Meningococcal Meningitis,	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Totals, ...	35	37	84	66	30	17	16	9	4	6	2	6	2	—	—	1	1	1	M 174 F 143
	72		150		47		25		10		8		2		1		2		317
Death Rate per 100 Cases admitted in each group,	34	32	30	25	15	9	10	6	5	7	3	7	3	—	—	6	4	1	17·5 13·4
	33		28		12		8		6		5		2		4		1		15·4

It will be seen that the mortality varies inversely with the age. Of those in the first year of life, 1 out of every 3 died, whereas of those over 10 years of age only 1 out of every 100 died. Sex does not appear to be a factor of importance. The great cause of death is broncho-pneumonia, which by itself, or associated with enteritis, was responsible for 240 deaths, *i.e.*, 76 per cent. of deaths. Enteritis by itself accounted for 45 deaths, *i.e.*, 14 per cent. of deaths. These two great causes operated, either apart or in combination, to secure 90 per cent. of the total deaths associated with measles. Croup was responsible for 17 deaths; in 10 of these a positive swab for diphtheria was obtained, but in the other 7 cases no bacteriological evidence of diphtheria was secured. Seven deaths were due to miliary tuberculosis. In 5 cases death was attributed to toxæmia; these cases were gravely ill on admission, and died within 24 hours. In two of these *post-mortem* examinations were performed, and the only findings were those peculiar to acute toxæmia.

Duration of Residence in Hospital.—The average duration of stay in hospital was as follows:—

Of the 750 uncomplicated cases who recovered,	20	days
Of the 996 complicated cases who recovered, ...	36	,,
Of the 317 cases who died, ...	16	,,

In connection with the duration of residence in hospital, it is interesting to note the interval between the first appearance of the rash (as far as could be ascertained) and the date of death. 54·4 per cent. of cases died within two weeks, but in 45·6 per cent. of the cases the first sign of the rash and the date of death were separated by a period exceeding two weeks (see following table).

DEATHS IN HOSPITALS.—WEEK OF DEATH FOLLOWING APPEARANCE OF RASH.

	No.	
1st Week, ...	61	54·4 %
2nd ,, ...	87	
3rd ,, ...	33	45·6 %
4th ,, ...	29	
5th ,, ...	14	
6th ,, ...	15	
7th ,, ...	9	
8th ,, ...	13	
9th ,, ...	5	
11th ,, ...	2	
13th ,, ...	1	
16th ,, ...	1	
17th ,, ...	1	
26th ,, ...	1	
	272	100 %
Accurate Information not available, ...	45	
	317	

WHOOPING-COUGH.

The number of cases of this disease registered during 1926 was 3,818, compared with 12,194 in 1925, while 20 more cases occurred in the added area. Of the total cases, 273 were treated in hospital. Like measles, the disease is subject to considerable variations, although not of the same magnitude. In 1926 the case-rate was 3,466 per million, compared with 11,109 in 1925, in the early part of which the disease was epidemic.

The disease remains compulsorily notifiable until the three years expire in July, 1927.

The object of notification was (1) to obtain early information, with a view to prevention, of subsequent cases; (2) early treatment by home nursing or removal to hospital. Cases not removed to hospital were visited by nurses at home.

GLASGOW.—CASES OF, AND DEATHS FROM WHOOPING-COUGH.

	1925				1926			
	Males		Females		Males		Females	
	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths	Cases Notified	Deaths
0—6 months, ...	296	40	316	43	84	14	91	12
6—12 ,, ...	567	95	570	94	167	19	204	28
1—2 years. ...	832	92	829	122	256	28	251	30
2—3 ,, ...	750	27	856	32	233	14	253	16
3—4 ,, ...	833	7	966	11	208	4	232	6
4—5 ,, ...	690	5	799	8	185	3	224	—
	3,968	266	4,336	310	1,133	82	1,255	92

Note.—The figures for 1926 do not include cases and deaths occurring in the area annexed in May, 1926.

The fatality of the disease among males during 1926 was as follows:—

Age	Death-rate per 100 cases
0—1 year, ...	13·1
1—2 years, ...	10·9
2—3 ,, ...	6·0
3—4 ,, ...	1·9
4—5 ,, ...	1·6

The death-rate during the year was 165 per million, while the fatality-rate was 4·8 per cent., compared with 5·8 in 1925.

CHICKENPOX.

During the year 5,718 cases were recorded in the former area of the City, of which only 153 required hospital treatment. The disease is not important from an administrative point of view, in the absence of smallpox.

OTHER INFECTIOUS DISEASES.

A record of other infectious diseases dealt with, together with the number of each treated in hospital, is given in Appendix Table XVII. Among these is included ophthalmia neonatorum, and the various forms of pneumonia which are dealt with in other sections of the report; there remain trachoma and certain other diseases which are here briefly referred to.

ANTHRAX.

Animals affected with anthrax are from time to time reported by the Veterinary Surgeon. In all instances persons who have handled the affected animals or carcases are kept under observation.

One case of anthrax in man was registered during the year.

ANTHRAX IN SHAVING BRUSHES.

The following report relates to two cases of anthrax in human beings, traced to the use of cheap shaving brushes imported from Czecho-Slovakia. The first case occurred in Manchester about 6th April, 1926, and the second case, which proved fatal, occurred in Glasgow on 1st August, 1926.

On 7th April, 1926, H.M. Inspector of Factories, Glasgow, reported that infection in the Manchester case had been traced to a shaving brush purchased in Bury. This was one of a box containing six brushes, purchased from a dealer in Salford. He had received the shaving brushes from a fancy goods importer in Manchester, who dealt with a wholesale jeweller and fancy goods merchant in Glasgow. The Glasgow dealer had received two consignments of this type of shaving brush from a firm in Czecho-Slovakia, each consisting of 25 gross, one consignment being received on 21st December, 1925, and the other on 21st January, 1926. Seven and a-half gross of the first consignment had been sent from Glasgow to the Manchester dealer. Examination of the premises of the Glasgow dealer revealed the presence of 181 dozen of the infected type of shaving brush still in stock. These were destroyed because of the highly infected nature of random samples which were examined. It was also discovered that this Glasgow dealer had been selling the same type of brush since April, 1925, and examination of samples purchased about April, 1925, gave positive findings for bacillus anthracis.

It was found on examination of invoices and day-books that this type of shaving brush had been sent from the Glasgow dealer to firms in Liverpool, Sunderland, Leeds, Newcastle-on-Tyne, Birmingham, Shoreditch, Finsbury, Aberdeen, Edinburgh, Helensburgh, Clydebank, Airdrie, Motherwell, Grangemouth, Leven, Donnybrook, and Dublin, and the Medical Officer of Health for each of those places was notified of the dangerous nature of these shaving brushes.

Corroboration of the positive results of the bacteriological examinations obtained at the Public Health Laboratory, Glasgow, was received from Newcastle, Edinburgh, and Manchester, and from the Ministry of Health. A search was instituted throughout the retail shops in Glasgow for this type of shaving brush, and a considerable number was found. In consequence various types of shaving brushes were submitted for bacteriological examination, but only that type to which the Manchester case had been traced was found to be infected with anthrax. The shaving brush in question was made of horsehair, dyed to imitate badger, the handle being of wood, white enamelled, and with a white label, upon which was inscribed in red letters "guaranteed free from anthrax." The approximate retail price was 6d.

On 26th April, 1926, the Czecho-Slovak Consul was informed about the infected shaving brushes and their source, and samples of the shaving brushes were also forwarded to him on request. On 29th June, 1926, the Glasgow dealer notified this department that while rearranging his stores he had come across two cases, each containing 100 dozen of the infected type of shaving brush, and these were handed over by him to be destroyed. On 20th July, 1926, the Czecho-Slovak Consul informed this department that prosecution of the exporter of this type of shaving brush was being vigorously proceeded with in Czecho-Slovakia.

With regard to the fatal case of anthrax which occurred in the Royal Infirmary, Glasgow, on 3rd August, 1926, the following is a brief clinical note:—P.H., aged 47, a stonemason, was last at work on 31st July, 1926. He was not known to have cut himself while shaving, nor to have received any injury beyond a bruise of the left arm by a falling stone some weeks before. He had had no dealings with hair works or hair-workers. There were no skins of animals in his house, and he had not been in contact with horses, cattle, harness, or similar leather goods, or any workers connected with these. On 31st July he used a new shaving brush, purchased on 17th July from a barrow in Moncur Street, Glasgow. The shaving brush was one of horse-hair, stained to represent badger, set in a polished white metal cap on a varnished wooden handle. No one else used this shaving brush but himself. The shaving soap was used by his son, and the razor had been used for years. On the evening of 1st August, 1926, he felt chilly. Next day a small red spot appeared below the angle of the left jaw. On the morning of 3rd August he was much worse, and there was also considerable swelling of the soft tissues surrounding the red spot, which had become darker in colour. On that day his condition rapidly became worse, and when admitted to the Royal

Infirmary that evening he was comatose. By this time the swelling involved the left side of the neck and face, and there were signs of meningitis. *Post-mortem* examination revealed congestion of the brain and its membranes, intestinal lesions, and a generalised infection of the spleen. Bacteriological examination showed the presence of anthrax bacilli in the shaving brush.

On the occurrence of this case a search for this type of shaving brush was instituted among the retail dealers throughout the City, when it was found that the same Glasgow wholesale dealer who was concerned in the previous case also stocked this type of shaving brush. The remaining stock of 49 dozen was taken over by the Public Health Department. It was found that this type of shaving brush was manufactured in Czecho-Slovakia on the same premises as the type to which the Manchester case had been traced. All transactions which the Glasgow firm had had with this shaving brush were noted, and the Medical Officer of Health of Donegal, Dublin, Belfast, Strabane, Banff, and Leven, to which shaving brushes had been sent, were notified of their infective nature.

As a result of the correspondence which passed between the Scottish Board of Health, the Foreign Office, and the Authorities in Czecho-Slovakia, a detailed inquiry was instituted into the methods of manufacture in the establishment in Czecho-Slovakia from which the shaving brushes had originated. At first the samples of shaving brushes which had been sent to the Czecho-Slovak Consul from Glasgow for corroboration of the bacteriological finding proved negative, but on 22nd February, 1927, the bacillus anthracis was found in further samples at the bacteriological laboratory in Prague. As a result of this special precautions are now to be taken in Czecho-Slovakia to prevent a recurrence of the infection of these shaving brushes with anthrax.

Normally the horse-hair and bristles used in the manufacture of shaving brushes receive a prolonged soaking in a 3 per cent. solution of caustic soda, after which the materials are boiled for three or four hours. In addition, a veterinary certificate that hair imported from Germany, which is the main source of supply, has been disinfected under supervision of the competent Public Health Office is necessary, and this certificate is verified by bacteriological examination by the Czecho-Slovak Authorities. In the case of hair received from home districts in Czecho-Slovakia, the disinfected is kept separate from the non-disinfected material in a store quite apart from the brush factory itself. A new disinfecting station is to be erected outside the brush factory. Special overalls for the use of workers, and the provision of bathing and disinfecting facilities after work have been arranged, while special attention is being paid to the cleansing and limewashing of premises and the burning of waste material.

DIARRHŒA AND ENTERITIS.

The incidence of these diseases has been considerably reduced during recent years, the number occurring being little more than half of those of a decade ago. About 60 per cent. of the total

deaths occurs among infants in the first year of life, and the variations in the numbers for that age period, now that the effect of high summer temperatures is less apparent, are largely dependent on the birth-rate.

The following table shows the numbers of deaths at three age periods for 1926, compared with the respective numbers during the three preceding years:—

	Age in Years.			
	-1	-5	5+	Total.
1923, ...	219	65	74	358
1924, ...	256	71	84	411
1925, ...	264	68	84	416
1926 (Old City), ...	296	77	77	450

The association of temperature with incidence of the disease is indicated in the following summary:—

	1924		1925		1926	
	Mean Temp. in Shade	Deaths under 1 Year	Mean Temp. in Shade	Deaths under 1 Year	Mean Temp. in Shade	Deaths under 1 Year
June, ...	61·2	12	58·1	19	56·0	17
July, ...	62·9	20	60·1	27	60·7	18
August, ...	61·6	39	58·4	43	59·2	46
September,	58·4	37	50·7	36	54·6	62

Fly Nuisance.—Following the custom of previous years, the weekly removal of material from all dung pits throughout the City was commenced in the month of May, and continued till September. In all 19,811 spraying of pits were carried out, the total cost incurred amounting to £513, or an average of 6·21d. per spray.

RABIES.

No case of rabies is known to have occurred, but a number of persons bitten by dogs were reported by the police for inquiry. These are shown in relation to the season of occurrence and the severity of the bite:—

	Slight	Serious
1st Quarter, ...	60	2
2nd ,, ...	93	4
3rd ,, ...	139	4
4th ,, ...	63	2
	355	12
	367	

1925, ... 263 1924, ... 210

TRACHOMA.

During 1926, 32 notifications were received, 7 of which were duplicates, leaving 25 new cases which came to the notice of the department, also 18 other patients, who went to the dispensary without being notified, making 43 in all, against 41 last year, 53 in 1924, and 62 in 1923. The places of birth of these cases were:—

Scotland, ...	29	India, ...	2
Ireland, ...	4	Russia, ...	6
Lithuania, ...	2		

The ages and sex distribution of these were as follows:—

Age	Males	Females	Total
– 2, ...	—	—	—
– 5, ...	1	2	3
– 10, ...	4	3	7
– 15, ...	6	1	7
– 20, ...	2	3	5
– 25, ...	4	3	7
– 35, ...	4	2	6
– 45, ...	1	3	4
– 55, ...	2	—	2
– 65, ...	1	—	1
+ 65, ...	—	1	1
	25	18	= 43

These cases have been dealt with as follows:—

Attending Corporation Dispensary, ...	33
Sailor, off on his ship, ...	1
In Hospital, ...	4
Not attending any Dispensary, ...	2
Beyond the Boundary, ...	2
Gone away, no address, ...	1
	43

There were admitted to hospital during the year for the first time 20 cases who could not receive the necessary treatment at the dispensary, and 11 were readmitted for further treatment.

The total attendances at the dispensary when the doctor was in attendance numbered 1,362, whereas the total attendance when the nurse only was present numbered 2,734.

Indoor Treatment of Trachoma.—In addition to the outdoor dispensary, the scheme in Glasgow for dealing with trachoma also includes the provision of indoor accommodation in a special ward in Ruchill Hospital. The functions of a trachoma ward may be summarised under three heads.

Firstly, it is a place of isolation, but in practice this function is rarely exercised unless the case arises in an institution, especially one where the inmates are largely children.

The second function is the provision of operative treatment. A certain proportion of cases require such forms of surgical interference as "expression," that is, a pressing out of the contents of the follicles which are found in the conjunctivæ of the eyelids. In many cases this may be done quite effectively in a dispensary under a local anæsthetic; but in children, if a good result is desired, it is usually necessary to express under chloroform. For this purpose residence in hospital for a few days is required. In some instances, however, cases require to be expressed several times. Other operative procedures occasionally called for are the use of the actual cautery for corneal ulcers or for pannus; peritomy; and electrolysis. These operations also require only a short residence in hospital.

The third function of indoor treatment is the beneficial effect on the eye condition of good food, fresh air, and cleanliness. This is probably one of the most important of its functions, and necessitates a much longer stay in hospital.

During the past year treatment by ultra-violet rays was made available for trachoma patients in hospital, and although the number of cases treated has so far been limited, this new therapeutic measure in some cases has given better results than had hitherto been obtained by operative measures, especially in the case of pannus of the cornea. In this connection Dr. M'Millan reports that—

"In one case the cornea was covered with a vascular pannus, which had resisted treatment of all kinds, including peritomy and the electric cautery, but the eyes responded at once to light treatment. This case is now very well indeed, the cornea being practically clear of blood vessels. Another case of pannus, on admission to Ruchill, had to be led by hand to the treatment-room. This patient is now able to go about by herself, and is also able to read the time on the ward clock at a distance of 10 feet. A third case, whose condition was previously impaired almost as badly, is now able to make her way home, and also to read the time on the clock face at a distance of 10 feet."

Admissions to Trachoma Ward—	
Males, ...	12
Females, ...	25
Operative Measures carried out—	
Expressions, ...	24
Peritomy, ...	3
Electrolysis, ...	3
Cautery, ...	7

Duration of Residence—	Males.	Females.
Average Residence, ...	44 days	35 days
Shortest ,, ...	7 ,,	8 ,,
Longest ,, ...	127 ,,	87 ,,

In view of the prolonged duration of residence of some of the trachoma patients, an inquiry was made as to the practicability of providing them with some occupation while resident in hospital. The female patients are now supplied with wool, and spend certain hours of the day in knitting. The male patients presented a more difficult problem, and, owing to the limited numbers, the irregular duration of stay, and the not uncommon act of leaving hospital before treatment is complete, none of the forms of occupation usually given to persons of defective vision, such as basket-making, shoe repairing, &c., have been found suitable.

TROPICAL DISEASES.

In 1926, 22 cases of malaria were registered, compared with 19 for the preceding year, while 12 cases of dysentery were notified, which is the same as the number during the preceding year.

DYSENTERY.

Several cases of illness, which proved to be infections by a dysentery organism, were recorded during August and September. In two instances several members of the same family were attacked. The organisms recovered from specimens, examined in the Public Health Laboratory, were Flexner in type. The illness was characterised by sudden onset and short duration, with complete recovery. The chief symptoms were headache, nausea, diarrhœa, and vomiting. The presence of blood and mucus in the stools was only evident in a few cases. The duration of the illness was from one to five days. The sudden onset, with the occurrence of several cases in one family, suggested food poisoning, for which condition the cases were reported to the Public Health Department.

INFECTIVE JAUNDICE.

Infective jaundice (spirochætosis ictero-hæmorrhagica) was made notifiable throughout the country up till 31st December, 1925, but in view of the occurrence of certain cases throughout Scotland, the Scottish Board of Health decided that the regulations regarding the notification of the disease should remain in operation until 31st December, 1926.

Case of Infective Jaundice.—A case of infective jaundice (spirochætosis ictero-hæmorrhagica) occurred in the Eastern Division in the person of a youth, J.B., aged 19 years, an apprentice iron-worker.

On 31st December, 1925, this lad when at work received a severe abrasion of his left hand, which became septic, but ultimately healed. A fortnight later he suffered from sickness and vomiting, diagnosed as gastritis, and was off work for a fortnight. Thereafter he was at work regularly until 29th April, when he had an attack of severe abdominal pain, followed by rigors and vomiting. On 10th May he was admitted to Glasgow Royal Infirmary as a case of appendicitis. On 15th May he was operated on, and died the same day.

Post-mortem examination showed pus in the abdominal cavity and the presence of spirochætes in the blood and internal organs. The pathologist's opinion was that the spirochætosis was the primary disease, and peritonitis a late complication.

The house in which the lad resided with his parents was clean and free from rats, but the workshop in which he was employed (a steel-frame maker's) and the adjacent premises of two other firms (a wholesale stationer's and a chocolate store) were found to be rat-infested. Efforts had been made by the firms concerned to exterminate the rats by means of dogs, traps, and poison, but with only partial success, and the rats had become wary and difficult to catch. Nine were, however, captured, of which six were forwarded to the Bacteriological Laboratory to be examined for spirochætes, but the results, both of microscopical examination and of animal inoculations, were negative.

In the affected premises, since the discovery and stopping up of rat-runs, particularly of one which led into the chocolate store, few rats have been seen.

REPORT ON LOCAL MOSQUITOES.

The following memorandum on the subject of mosquitoes is a continuation of reports previously submitted by Dr. W. C. Gunn:—

In continuation of the observations on local mosquitoes submitted in the Annual Reports for the three preceding years several interesting facts which have been noted during the past twelve months fall to be recorded.

No new species has been added to the six varieties already identified and recorded in the Report of the Medical Officer of Health for 1925; and so far anopheles bifurcatus is the only anopheline mosquito found in Glasgow and the districts of the West of Scotland which have been searched. This, however, does not definitely mean that the two other anophelines found elsewhere in Great Britain, namely, anopheles maculipennis and anopheles plumbeus, do not exist here, and diligent search may yet reveal their presence.

Life Cycle.—As is well known, the life cycle of the mosquito consists of four stages—the egg, the larva, the pupa, and the imago or adult insect, and that the first three stages are aquatic, that is to say, the mosquito requires the presence of water for these early stages of development. Without water the larvæ and pupæ cannot exist, and this fact explains the necessity for all the drainage that has to be carried out in the drying up of marshy land where mosquitoes are breeding, and where they have to be exterminated for the purposes of disease prevention.

Culex egg-rafts were most readily found in garden rain-barrels during August.

Those stages in the life history are also influenced by the temperature of the atmosphere and the humidity. Cold weather always tends to prolong and warm weather to expedite each stage of development. Under favourable conditions the mosquito may develop from the egg to the adult insect within six weeks. Anopheles bifurcatus was observed hatching out on the 28th March, 1927 from larvæ which had been collected from Bogton Marsh, Muirend, Cathcart, on the 16th March. These larvæ commenced pupation on the 22nd March. This is the earliest date of hatching observed so far, and it is the earliest record of anopheles bifurcatus for Scotland. Subsequent to this date pupation progressed rapidly, and early in May numerous adults were observed flying about in the sheltered parts of Bogton Marsh and Possil Marsh, Lambhill.

The largest and probably the most distinguished looking of our native mosquitoes is theobaldia annulata, one of the culicines which usually breeds in stagnant ditches contaminated by sewage or by farmyard manure, although the larvæ may also be found in water-butts and the back waters of streams, &c. All the male adults die off by the end of November, and the females hibernate in cellars and cowsheds, &c. A few larvæ occasionally live through the winter.

On 21st March one of these wintering larvæ was taken from Braidbar Quarries, near Giffnock, and, on 29th March, a male adult theobaldia annulata emerged from it. On 19th March a female theobaldia annulata was captured in a house near Glasgow, and this in all probability was one of the hibernating adults which had been tempted to leave its shelter by mild weather conditions.

Mosquito Bites.—The question of mosquito bites has occupied the minds of the public to some extent during the past few years. Bites inflicted by culex pipiens were observed on 25th November, 1926, and again on 2nd January, 1927, both occurring within doors. In each case these bites were just above the ankle, and of such a degree of severity as to indicate the possibility of sepsis being conveyed through the puncture in addition to the natural irritant poison of the salivary gland of the mosquito. These bites are recorded on account of the late period at which they occurred during the winter. Since the early summer flight of anophelines have appeared the writer can personally vouch for the readiness with which anopheles bifurcatus will bite under suitable conditions both indoors and outside. All of the bites

became very irritating within a quarter of an hour of their occurrence, and remained so for two or three hours afterwards. One of the bites on the forearm consisted of a raised white weal about half an inch in diameter, with a definite central puncture and surrounded by a diffuse red areola. As many as five mosquitoes were observed biting at one time, chiefly on the wrists and forearms, during the sunny period of the afternoon of 17th May. On the following day the swelling of the bites had subsided and small red papules remained, which on rubbing became more prominent. There can be no doubt that the toxin from the salivary glands of some of the local mosquitoes is virulent, and that in susceptible individuals it may produce serious consequences.

BOGTON MARSH.

The subject of local mosquitoes became a question of great importance, from a Public Health point of view, when complaints of the consequences of mosquito bites began to be received from the Cathcart district during September, 1926. The bites were of varying degrees, due to the difference in the susceptibility of individuals to the salivary poison of the mosquito, and in a number of cases the bites inflicted, especially in elderly ladies, necessitated the latter being confined to bed by their doctors. Swelling and redness developed around the site of the bites, and in some of the cases a blister formed which when broken was infected by septic organisms from the skin or clothing. This risk of septic infection consequent on mosquito bites, in addition to the injury from the bites, is important, as it may constitute a definite danger to the health of the person bitten. Investigation by the Public Health Department revealed the fact that Bogton Marsh, around which dwelling-houses are rapidly being built, was found to be an ideal breeding place for mosquitoes in consequence of the neglected state of the ditches, which has caused the water to overflow from the Merrylee Burn on to the low-lying fields forming a marsh of about 12 acres in extent.

Three types of mosquitoes have been found breeding in this area, namely, anopheles bifurcatus, culex pipiens, and culicella morsitans, of which the two first mentioned bite readily out of doors and indoors. Only a small part of the marsh lies within the Glasgow boundary, but the question of having the stagnant ditches cleared was taken up most thoroughly by the Upper District Committee of Renfrewshire against the trustee of the estate of which the marsh forms a part. It was considered by the Public Health Authorities of Glasgow and of the County of Renfrew that the neglected condition of the ditches of Bogton Marsh constitutes a nuisance within the meaning of the Public Health (Scotland) Act, 1897, Section 16 (2).

Proof was led in the case at the Sheriff Court at Paisley over a period of four days, and the Sheriff's Interlocutor and Note thereon are appended.

W. C. GUNN.

Public Health Department,
Glasgow, June, 1927.

SHERIFF'S INTERLOCUTOR AND NOTE.

Paisley, 14th June, 1927.—The Sheriff-Substitute, having considered the Proof, Finds in fact (1) that the defender is proprietor in trust of the lands of Muirend, comprising the ditches marked A.D. and B.C., C.D., upon the Ordnance Survey Plan No. 9 of Process, and of the adjacent ground; (2) that the said ditches are in close proximity to a residential district in the outskirts of the City of Glasgow, all as shown on the said Plan No. 9 of Process; (3) that the said ditches have, through the neglect of the defender, become so encumbered with silt and vegetation as to be ineffective as watercourses, and that the water which should be conveyed by the said ditches is to a considerable extent thrown upon the adjacent ground; (4) that the said ditches and adjacent ground have thus become a breeding ground for large quantities of mosquitoes; (5) that to a certain extent in the autumn of 1925, and to a large and substantial extent in the autumn of 1926, mosquitoes from the said lands and ditches have invaded the said residential district and attacked the residents; (6) that the bites of the said mosquitoes caused pain and swelling, occasioning in some cases temporary incapacity, and followed in some cases by septic sores, and that their presence caused reasonable apprehension and diminution of comfort in the community; and (7) that there is a reasonable probability of the repetition of these conditions in following years: Finds in law that the said ditches, in respect of their being encumbered as aforesaid, are watercourses in such a state and so situated as to be a nuisance and injurious or dangerous to health in the sense of Section 16 (2) of the Act 60 and 61 Vict., cap. 38, and that the defender is the author of the said nuisance in the sense of Section 20 (1) of the said Act. Therefore ordains the defender, as trustee aforesaid, to clear the said ditches of the silt and vegetation with which they are encumbered, and thereafter to maintain them clear of silt and vegetable growth: Ordains that the Plan No. 9 of Process shall remain permanently in the hands of the Clerk of Court and not be borrowable: *Quoad ultra* continues the cause.

(Signed) ALEX. M. HAMILTON.

Note.—The defender in this application is the proprietor in trust of the ground in question (which I shall refer to as Muirend), which, as shown by the Plans Nos. 4, 6, and 9 of Process (as to last of which see Proof 161 F. to 162 D.), is contiguous to a residential locality in the outskirts of the City of Glasgow. The pursuers complain that certain ditches on the said ground have been allowed to become choked and overgrown, with the result that they and the fields adjoining have become a breeding place for mosquitoes to such an extent that the ditches are now to be regarded as watercourses in such a state or so situated as to be a nuisance or injurious or dangerous to health in the sense of Section 16 (2) of the Public Health (Scotland) Act, 1897. It is proved, in my opinion, that in autumn 1926 mosquitoes were in and about the houses of the district in question in such quantities as to cause pain, discomfort, and apprehension amongst the residents to

a very substantial extent, and that they also were found there in 1925, though to a smaller extent. It should be noted here that the evidence for the pursuers of persons alleging that they had suffered from these mosquitoes could admittedly have been extended on the same lines as that actually led. That the source of these mosquitoes was Muirend is proved to my satisfaction by (1) the suitability of the place for breeding mosquitoes; (2) its propinquity to the residential district, coupled with the evidence as to the mosquito's powers of flight; and (3) the evidence of medical men called on both sides, who looked for and failed to find evidence of mosquitoes breeding in other places in the neighbourhood (95 A.B., 376 B.—378 C., 412 A.B.).

The defender contests the applicability to the circumstances of Section 16 so broadly as to challenge the competency of this procedure, but this contention can only be considered on an examination of the facts.

The defender further contends that, even on the admission that Muirend is the source of these mosquitoes, (*a*) no nuisance has been committed, and (*b*) he is not the author of the nuisance. (*a*) He maintains that the ground in question is marshy and difficult to drain, and that this natural condition, for which he is not responsible, is the cause of the matter complained of. I do not feel called on to decide upon the general question whether land in its natural state may be a nuisance under the statute, for what the pursuers specifically founded on was the condition produced by the neglected state of the ditches. (*b*) Alternatively, the defender attributed the present degree of wetness of the ground to interference by a lower riparian proprietor with the flow of the Merrylee Burn, whose course is through a part of the ditches. Here again I do not think that I have to decide whether, on this assumption, the defender or the lower proprietor should be regarded as the author of the nuisance (see Section 20 (1)), because I am of opinion that the immediate cause of the nuisance is the condition of the ditches.

The watercourses in question, which are marked on No. 9 of Process in red ink with the letters A.D. and B.C., C.D., are all really artificial ditches, though C.D. probably follows the natural course of the Merrylee Burn (176 E.). Now it seems to me to be established by the evidence both of the engineers and of the entomologists that these ditches are so encumbered with silt and vegetable growth that between B. and C. there is a constant or at least very frequent overflow of water which spreads over the land, finding its way to the ditch A.D. or the point of outflow D. as best it can (83 D., 154 C.—158 F., 168 E., 207 C.D., 209 C., 297 E.F., 300 B.D., 362 D.F.). I think it is proved further that the ditch A.D. is choked and overgrown and unable to convey the water properly belonging to it or what is thrown upon it as I have already explained, and that this ditch also overflows upon the land beside it. Through the ditches there is a slow percolation of water amongst the vegetable growth, but no real flow. I think that the flow through the culvert just below D. has nothing to do with this specific form of flooding, because between D. and the

culvert there is a good flow in times of normal rainfall, both when the water is overflowing between B. and C. and when it is not (89 B., 159 A.C., 299 D.F., 306 C.F., 373 A.C.). For this reason I think it unnecessary to go into the evidence as to the levels of the burn lower down. This flowing over between B. and C. has been observed by various people at different times, and in my opinion must frequently occur when the burn is moderately full, quite apart from flooding through insufficient outflow at the culvert. The history of the place seems to show that, while it was always wet and subject to occasional flooding, the ditches were some years ago in working order, but for five years or so have been utterly neglected (32 B.E., 148 D.F., 350 C.—351 B., 360 B.E.). Reading the engineering and entomological evidence together I conclude that the disorder of the ditches themselves, the spilling over of the water, and the maintenance by these means of a constant supply of sheltered surface water, has gradually made the place the breeding place for mosquitoes which, in my opinion, it is. This, together with two fine summers, has brought up the stock of mosquitoes in the place so as to account for the result complained of.

In the next place, the breeding place being so close as it is to a residential district, I think it clear, from the evidence as to the habits and instincts of the insect, that it is a natural and indeed inevitable result that it should attack the residents. This attack produced in those actually bitten various degrees of pain, swelling, irritation, sleeplessness, and risk of septic poisoning on yielding to the natural inclination to rub the irritated part, and in the community generally reasonable apprehension and deprivation of the freedom of being outside or having windows open in fine weather.

I am of opinion that this amounts to a nuisance at common law (Bell's Principles, 974). It has been held by Warrington (J.) that a person who, by keeping an unusual or excessive collection of manure, occasioned flies to collect in numbers to the annoyance of neighbouring residents was guilty of a nuisance at common law (*Bland* v. *Yates*, 58 Sol. J. 612), and, even on the assumption that in Scotland mosquitoes are no more dangerous than other flies, I do not see that the defender, as responsible for the state of these ditches, is in any better case. He maintains, however, that what may be a nuisance at common law does not amount to a nuisance under the Act unless it is injurious or, in Scotland, dangerous to health. For this he refers to *The Great Western Railway Company* v. *Bishop* (L.R. 7, Q.B.D. 550). I think the phraseology of the English Acts is so close to that of Section 16 that English decisions must be regarded in the absence of Scottish authority, and that *The Great Western Railway Company* v. *Bishop* (cit.) read with *Bishop Auckland Local Board* v. *Auckland Iron Company* (L.R. 10, Q.B.D. 138) shows that the distinction is not between nuisance which can, and that which can not, be definitely pronounced to be injurious or dangerous to health, but between such nuisances as may reasonably be connected with public health and those which can not. For example, a watercourse so kept that it overflowed and obstructed a highway would apparently be a nuisance at common law, but not under the Act. But a watercourse so kept that its state has the results above described must, in my opinion, be held as a nuisance under the Act also.

But I am prepared to hold further that the action of these mosquitoes was injurious or dangerous to health. The reaction of different individuals to mosquito bites varies from practically nothing to what I consider a palpable disturbance of health. I think that those most seriously affected are a section of the community whom the Act is designed to protect (*Malton Board of Health* v. *Malton Manure Company*, L.R. 4, Ex. D. 312). Then there is a large class in whom an irritating itch is produced. It seems only a question of degree whether this does or does not amount to a disturbance of health, and I think that I am bound to regard the tendency to rub or scratch the affected part, which involves the risk of producing a septic sore, as a natural and probable result of the initial injury. This at least seems to me clear in the case of children.

I must also touch on the danger of the mosquito as a carrier of malaria. As a matter of private litigation, I should think the pursuers barred from founding on this after Dr. Gunn's evidence (97 B.D.). But in a matter of public interest, while I consider the risk of malaria being carried by a mosquito in Scotland as a remote one, I cannot take the responsibility of dismissing it as fanciful. The evidence shows that for malarial infection there is necessary (1) a mosquito of, *inter alia*, the species named anopheles bifurcatus, the larva of which was found in quantity at Muirend last April; (2) a person who has had malaria, from whom in biting the insect obtains the malarial germ; and (3) a mean temperature of at least 60° Fahrenheit for sixteen days or thereby while the malarial germ matures in the mosquito (252 A.C., 396 A.B., 440 F., 453 E.—454 B.). Thereafter, in biting, the insect may convey the disease. Now there are plenty of people in this country who have had malaria. On the contrary, the statistical evidence as to the temperature seems to me to show that the attainment of the necessary mean temperature is unlikely. There is, however, the chance that the insect, by remaining indoors, might enjoy the necessary temperature, and whether its doing so is probable seems to me to be entirely in the sphere of scientific speculation. It would appear to be the scientific deduction from the Kirriemuir case that malaria has once in recent years been conveyed in Scotland (217 B., 252 D.), and it is remarkable that the average temperature has not altered from the period when malaria or ague was a comparatively common complaint (440 C.D., 445 C.D.). For all these reasons I consider that the presence of these mosquitoes in the residential district in question was injurious or dangerous to health in the sense of the statute.

On the assumption that he was the author of a nuisance in the autumn of 1926, the defender maintains that the nuisance has now ceased and is not likely to recur. It is true that at this season, or at least at the period to which the evidence relates, adult mosquitoes are not to be found or expected. But it seems to me incorrect in fact to say that a condition having periodic phases has ceased because it has reached a phase of quiescence. The essence of this nuisance is the breeding of mosquitoes, though the nuisance is only effective while they are in the adult stage, and on the evidence this breeding has not ceased at all. Even if, contrary to my opinion, attention should be

confined to the period of the insects' activity, all this argument amounts to is that unfavourable weather might easily in Scotland very materially abate the nuisance. On the contrary, I think it is proved that all the conditions for the production of large quantities of mosquitoes are so prepared, that, given fine weather, a repetition of the nuisance is reasonably to be anticipated. This, I must add, applies properly only to the anopheles bifurcatus which hibernates in the larval state. There was no positive evidence of survival of the culex pipiens. But I think that the evidence as to the anopheles is sufficient to justify my conclusion.

Finally, the defender, even assuming all the facts against himself, maintains that he should not be found liable as craved on certain arguments which seem to me to fall into two heads—

(*First*) He makes a separation between the ditches and the mosquitoes. Conceding that the mosquitoes are a nuisance, he says that the ditches are no nuisance, even on the assumption that they are in such a state that they may produce a nuisance. This seems to me as fallacious as to say that a fever-germ producing drain is no nuisance because it is the fever germs which do the mischief. That most of the things enumerated in Section 16 (2) are nauseous or unpleasant in themselves, while these ditches have nothing to ordinary apprehension unpleasant about them, is accidental and irrelevant, for the section by its disjunctive terms clearly contemplates (1) what is foul and (2) what is not foul, yet a nuisance or injurious or dangerous to health. The mosquitoes the defender assimilates to stray animals, as to which it has been decided that there is no action for trespass if the animals (*e.g.*, rabbits) are *feræ naturæ*, so that the proprietor invaded may defend himself by killing them (*Stearn* v. *Prentice*, 1919, 1 K.B. 394 and cases cited). The defender submits that the persons here aggrieved may kill the mosquitoes. But these decisions do not apply to cases of nuisance effected by the unusual and excessive collection on land of creatures such as game or insects which may be harmful to neighbours (*Stearn* v. *Prentice*, cit: *Bland* v. *Yates*, cit: *Farrer* v. *Nelson and Anr.*, 15 Q.B.D. 258). The case most in point here is, I think, *Bland* v. *Yates* (cit.) read along with *Bishop Auckland Local Board* v. *Auckland Iron Company* (cit.).

(*Second*) The defender says that Section 16 (2) does not (as learned Counsel expressed it) apply to this *species facti* at all. By this he intends, as I understand, to raise the question whether, assuming a wrong for which there may be some legal remedy, the pursuers are entitled to take this summary procedure (see *The Great Western Railway Company* v. *Bishop* (cit.) and *The Queen* v. *Parlby*, L.R. 22, Q.B.D. 520). First he represents this as a very large question affecting the attitude toward mosquitoes of Public Health Authorities throughout Great Britain, and then he argues that this case is governed by the decision in *The Queen* v. *Parlby* (cit.). Now the plaintiff in that case seems to me, whether of necessity or not, to have put his case so broadly as to have challenged a public Authority's right to carrying out a statutory undertaking. Here the question seems to me to be entirely one of special local circumstances, reaching no further than whether certain ditches admittedly in bad order ought to be put into proper order.

This brings me to the remedy craved, as to which I have to emphasise that the nuisance complained of is not the presence of mosquitoes at Muirend, but the surplus due to the specific matter of the ditches being in bad order. It seems to me to be admitted, at least as a probability, that mosquitoes are indigenous at Muirend. On the other hand, it is my opinion on the evidence that the clearing of the ditches will effect a practical cure of the matter complained of (83 B.C., 157 D.F., 158 D.F., 160 E.—161 D., 210 B.—212 C., 413 A.D.), and in my opinion I am bound to act upon that view. But I must keep before me that the complete elimination of the mosquitoes is improbable, and that the exact effect of the remedy is problematical. Therefore I think it would be wrong to lay upon the defender any general order for the removal of the nuisance which might raise questions of degree as to whether it had been implemented. I propose to order him specifically to clear these ditches and maintain them reasonably clear. If this is done it must, in my view, be taken that the nuisance here complained of is removed. If mosquitoes still remain at Muirend, whether in troublesome quantities or not, they must be ascribed to causes not here complained of.

I shall continue this application so that, if necessary, I may be moved to fix a time at which, and a person to whose satisfaction, the ditches are to be cleared.

(Initd.) A. M. H.

Meteorological Table Extracted from the Registrar-General's Reports for Glasgow, 1926-1927.

Week ending.		Temperature (Fah.) Maximum.	Minimum.	Mean.	Rainfall in inches.	Hours of bright Sunshine.	Remarks. Monthly Summary.
1926.		°	°	°	°	°	
June	5,	68·3	42·0	53·1	0·48	51·6	Mean temperature for the month 55·3. Mean daily range of temperature 14·2. Rain 2·54 inches.
,,	12,	69·7	49·0	56·8	1·37	36·4	
,,	19,	69·5	47·8	56·8	0·49	31·3	
,,	26,	71 0	43·9	55·9	0·23	53·1	
July	3,	72·3	49·1	60·3	0·01	56·7	Mean temperature for the month 60·4. Mean daily range of temperature 15·2. Rain 2·85 inches. (1·40 inches of this fell on 23rd, causing flooding).
,,	10,	68·7	51·1	59·9	0·26	25·0	
,,	17,	83·0	52·2	64·8	0·00	48·5	
,,	24,	74·9	50·1	60·0	2·47	28·3	
,,	31,	70·9	48·1	59·2	0·20	44·9	
August	7,	74·1	49·8	60·8	0·97	60·0	Mean temperature for the month 59·1. Mean daily range of temperature 14·2. Rain 2·71 inches. Judged by its mean temperature, this month was the warmest August in Scotland since 1911. Severe thunderstorm on the 11/8/26.
,,	14,	65·0	50·7	57·9	0·69	23·2	
,,	21,	70·7	51·0	59·5	1·44	32·0	
,,	28,	69·7	49·9	57·7	0·17	34·6	
September	4,	72·3	46·5	58·1	0·02	15·6	Mean temperature for the month 54·6. Mean daily range of temperature 13·7. Rain 3·82 inches.
,,	11,	64 0	47·7	56·7	0·97	29·7	
,,	18,	75·0	45·8	57·1	0·91	21·7	
	25,	67·7	40·2	53·0	0·65	27·6	

Meteorological Table (*continued.*)

Week ending.		Temperature (Fah.) Maximum.	Minimum.	Mean.	Rainfall in inches.	Hours of bright Sunshine.	Remarks. Monthly Summary.
1926.		°	°	°	°	°	
October	2,	61·2	33·2	51·9	1·66	18·4	Mean temperature for the month 43·8. Mean daily range of temperature 11·7. Rain 5·85 inches. Heavy snowfalls in some parts of Scotland. The last two weeks were exceptionally cold.
,,	9,	66·9	45·2	55·4	1·18	19·4	
,,	16,	54·0	34·8	44·8	1·6	28·4	
,,	23,	46·6	28·1	37·4	0·19	18·7	
,,	30,	43·0	25·3	36·7	1·39	15·4	
November	6,	56·5	24·9	39·2	1·86	16·2	Mean temperature for the Month 40·9. Mean daily range of temperature 9·1. Rain 5·75 inches. Rainfall generally in excess.
,,	13,	52·0	28·2	41·9	1·61	15·9	
,,	20,	48·0	38·0	42·9	1·86	8·2	
,,	27,	46·8	29·0	39·9	0·60	4·9	
December	4,	45·0	28·8	37·7	0·63	4·6	Mean temperature for the month 40·4. Mean daily range of temperature 8·0. Rain 1·28 inches.
,,	11,	51·5	33·0	44·8	0·18	0·7	
,,	18,	49·1	28·7	41·2	0·46	6·4	
,,	25,	46·3	27·7	36·0	0·04	6·7	
1927.							
January	1,	51·0	30·2	43·6	0·22	4·1	Mean temperature for the month 39·5. Mean daily range of temperature 8·0. Rain 4·30 inches. Rainfall was decidedly excessive. Wind velocity on 28th 104 miles per hour.
,,	8,	51·0	31·0	41·3	1·50	11·6	
,,	15,	53·6	35·3	43·9	0·77	2·3	
,,	22,	39·9	22·8	33·3	0·21	4·6	
,,	29,	49·1	32·9	41·5	1·82	1·7	
February	5,	49·7	26·3	39·4	1·06	11·3	Mean temperature for the month 40·1. Mean daily range of temperature 9·5. Rain 2·13 inches. Frost severe between the 8th and 13th of the month.
,,	12,	50·4	27·6	37·1	0·03	9·5	
,,	19,	47·8	25·0	40·0	0·36	8·0	
,,	26,	49·5	35·2	43·1	1·31	9·7	
March	5,	50·5	41·2	44·7	0·83	7·8	Mean temperature for the month 43·8. Mean daily range of temperature 11·0. Rain 2·72 inches. The month on the whole was the mildest month in Scotland since 1893.
,,	12,	47·3	32·0	40·7	0·15	35·1	
,,	19,	54·6	31·1	43·5	0·26	11·1	
,,	26,	61·7	37·8	47·0	1·25	8·4	
April	2,	51·7	33·9	42·8	0·59	5·4	Mean temperature for the month 44·4. Mean daily range of temperature 12·9. Rain 2·09 inches. Temperature above normal during first half of month, but cold conditions during the last week. Snow occurred in some districts between 8th & 11th.
,,	9,	51·3	33·0	44·1	0·55	41·8	
,,	16,	53·6	36·7	46·3	0·48	31·2	
,,	23,	55·0	40·6	49·2	0·54	11·0	
,,	30,	47·5	29·0	39·4	0·69	54·9	
May	7,	66·7	30·1	47·5	1·22	16·9	Mean temperature for the month 48·4. Mean daily range of temperature 13·7. Rain 2·62 inches.
,,	14,	74·0	33·2	48·1	0·47	29·2	
,,	21,	60·3	40·3	49·9	0·72	42·5	
,,	28,	64·0	40·0	51·1	0·22	42·1	

This table is introduced to show the meteorological conditions which prevailed from June, 1926, until May, 1927, and under which mosquitoes may readily propagate. The summer and autumn flight at Bogton Marsh was undoubtedly very prolific when judged by the evidence of the number of people attacked by the insects, and also by the reports from reliable observers.

The monthly mean temperature during July, August, and September, 1926, was a little higher than during the same period in

1925, and this may have accounted to some extent for the season being more favourable than usual for mosquitoes around Glasgow.

It will be observed that the mean for July, 1926, was 60·4° (Fah.), which temperature, when sustained for sixteen days, is favourable for the development of the parasite of malaria in the body of certain anopheline mosquitoes, among which anopheles bifurcatus is included.

DIABETES.—SUPPLY OF INSULIN.

The report for the year 1925 gives details of the scheme for the distribution of insulin to persons suffering from diabetes not otherwise provided for, and who, in the opinion of the Local Authority, require assistance in obtaining a supply of the drug.

The applicants belong generally to the group of the working-class population which is not insured under the National Health Insurance Acts. Of the 35 cases applying for the first time during the year, 22 were married women or widows; four were children under sixteen years; four, while of insurable age, were outwith the provision of the National Insurance Scheme (a student, an unemployed youth whose benefit had lapsed, and two elderly men); and the remaining five were hospital cases.

The following is a summary of the cases who received supplies:—

Cases on Roll at 31st December, 1925, ...		27
,, applying for first time during 1926, ...	35	
,, who discontinued treatment prior to 31st December, 1925, but re-applied during 1926, ...	3	
	—	38
		—
		65
Cases who died during 1926, ...	9	
,, ,, discontinued supply during 1926, ...	12	
	—	21
		—
Leaving Cases on Roll at 31st December, 1926, ...		44
		═

Of the 12 cases who discontinued obtaining supplies, five were inmates of the Corporation hospitals receiving treatment for other diseases, and a supply of insulin was issued from the office during their residence in hospital. Inquiry regarding the remaining seven cases elicited the following reasons for discontinuing the treatment:—

Discontinued treatment under medical advice, ...	2
Removed beyond City boundary.	1
"Keeping well without treatment."	2
"Not benefiting from treatment,"	1
Indefinite.	1
	—
	7
	═

The following indicates the variation in dose among the cases who were on the roll at 31st December:—

No. of Cases.	Daily Amount.
—	Under 5 Units.
10	5 to 14 ,,
10	15 ,, 24 ,,
10	25 ,, 34 ,,
5	35 ,, 44 ,,
6	45 ,, 54 ,,
2	55 Units and over.
1	Not stated.
44	

During the year 3,851 phials of 100 units each were issued, at a total cost of £385. The corresponding figures for 1925 were 1,688 phials, at a cost of £169.

SECTION V.

RESPIRATORY DISEASES AND TUBERCULOSIS.

Under the term respiratory diseases are included pneumonia, bronchitis, and influenza. The incidence of the first two depends very much upon that of the third, which was prevalent in the late spring of the year. This incident caused the deaths from influenza and its common sequel pneumonia to be higher than those for the preceding year. The following table shows the fluctuations which occur from year to year:—

	Pneumonia.		Influenza.		Other Respiratory Diseases including Croup.	
Year.	Deaths.	Rate per million.	Deaths.	Rate per million.	Deaths.	Rate per million.
1922	2,303	2,129	767	709	1,477	1,365
1923	1,400	1,285	65	60	972	892
1924	2,198	2,006	412	376	1,283	1,171
1925	1,665	1,517	210	191	1,098	1,000
1926	1,758	1,596	386	350	967	878

As regards children under five years of age, it is difficult to obtain an accurate estimate of the extent to which they are affected by acute primary pneumonia, because of the confusion which exists with secondary pneumonia, due to measles and whooping-cough. In the death returns, the fact that the pneumonia from which the child died is really secondary to one or other of these affections is, in very many cases, not stated, with the result that the total deaths from primary pneumonia become unduly magnified. It has, in fact, been found impossible to state statistically the correct incidence of pneumonia from year to year. The data are thus subject to considerable qualification.

The influenza outbreak of March is described in the following report, which appeared in the Health Bulletin of April:—

OUTBREAK OF INFLUENZAL-PNEUMONIA.

The outbreak of influenza, accompanied by pneumonia, which commenced abruptly during the last week of March, had practically ceased by the end of the third week in April. The general effect of these coincident outbreaks was as follows:—

The maximum incidence of the deaths was reached during the week ending 3rd April, when the general death-rate reached the

comparatively high figure of 28·9, while the maximum incidence of both acute primary and acute influenzal-pneumonia was reached during the subsequent week ending 10th April. Thereafter a rapid fall took place. The aftermath of these events was still evident in the third and fourth weeks of April, the death-rate being 21·2 and 17·0 respectively.

The outbreak is best described as an influenzal one, with an associated increase in the incidence of pneumonia, as the majority of the latter cases did not have the true and typical features of influenzal-pneumonia, such as characterised the last and much more serious epidemic of January, 1922.

The number of patients treated in hospital rapidly increased. A very considerable strain was thrown on the hospital accommodation, and, in spite of rapid reorganisation and increase in beds, made available at the expense of other affections, along with the co-operation of the general hospitals and the Poor Law Authorities, it was impossible to avoid a waiting list. In the Corporation hospitals alone the number of patients under treatment at one time reached the high total of 497 on 16th April.

The age of life principally affected by death was the period above sixty, but, in contradistinction to what was experienced during the high prevalence of respiratory disease which accompanied and followed the period of fog, combined with low temperature, during November of last year, there was a decided attack on children below five years of age, who suffered more in proportion.

The progress of events is given in the following tabular form :—

		Mar 6	Mar. 13	Mar. 20	Mar. 27	Apl. 3	Apl. 10	Apl. 17	Apl. 24
General Death-Rate,	-	14·3	14·3	17·0	22·1	28·9	23·8	21.2	17·0
Deaths,	Pneumonia, -	33	31	39	87	119	98	81	49
	Influenza, -	5	2	8	25	66	83	43	19
Cases,	Acute Primary Pneumonia, -	136	132	213	244	295	397	218	133
	Acute Influenzal-Pneumonia, -	2	5	11	21	68	160	62	31
		138	137	224	265	363	557	280	164

There was again some prevalence of acute pneumonia towards the close of the year, when the hospital accommodation was taxed by the general rise in scarlet fever. Towards the end of November there were nearly 2,000 cases in the various fever hospitals, which made it necessary to evacuate one of the phthisis wards at Knightswood Hospital. There was a tendency, especially at that time of the year, to notify as pneumonia cases of bronchitis and enteritis in children.

The highest number of cases were recorded in March, and of the total 6,157, 3,423 were removed to hospital.

More than 50 per cent. of the cases occurred among children under five years of age, those between one and two years of age being most heavily affected. Male cases exceed the female cases in the ratio of 4 to 3 approximately.

There were 512 cases of influenzal-pneumonia registered. The report of last year contains an account of the hospital policy adopted with regard to acute respiratory disease. The hospitals have practically become general hospitals for the treatment of acute diseases of the chest. Although technically acute primary pneumonia is the affection which is notifiable, and for which the accommodation is intended, nevertheless acute bronchitis, especially in children, is being very largely dealt with. In fact, in Ruchill Hospital some 20 per cent. of the admissions are patients with simple, mild, or sub-acute bronchitis, many of whom recover in one, two or three days. This is a phase which has to be reckoned with in hospital accommodation. I know of no effective way of checking these admissions or preventing them, as they are dictated both by housing conditions and preventive considerations.

Ward Distribution.—The greatest number of cases of acute influenzal-pneumonia was 415, recorded in Calton, followed by 331 in Cowcaddens.

PULMONARY TUBERCULOSIS.

Following on a reduction from 1,006 per million in 1924 to 922 in 1925, there has been a further reduction in the death-rate to 861 in 1926, which is the lowest recorded.

The death-rates from pulmonary tuberculosis, in succeeding periods, have been as follows:—

1881-1890,	2·680 per 1,000 living.		1921,	-	1·007 per 1,000 living.
1891-1900,	2·015	,,	1922,	-	1·074 ,,
1901-1910,	1·533	,,	1923,	-	1·014 ,,
1911-1915,	1·346	,,	1924,	-	1·006 ,,
1916-1920,	1·191	,,	1925,	-	·922 ,,
			1926,	-	·861 ,,

The death-rates for several large towns are shown in the table which follows:—

PHTHISIS DEATH-RATE PER 100,000 IN CERTAIN TOWNS.

	1913	1920	1921	1922	1923	1924	1925	1926
Glasgow,	**143**	**106**	**101**	**107**	**101**	**101**	**92**	**86**
Edinburgh,	114	85	91	87	94	101	95	84
Dundee,	116	99	100	98	98	85	87	81
Aberdeen,	109	93	91	88	81	91	97	74
London,	—	106	107	108	97	98	95	88
Liverpool,	—	141	127	140	125	130	130	122
Manchester,	—	133	130	127	124	118	131	119
Birmingham,	—	95	97	97	92	97	98	94

Comparing the death-rates from pulmonary tuberculosis with other large towns given above, it is shown that among Scottish towns the decline from the pre-war rate of 1913 has been greater in Glasgow than in the others. The rate for 1926 is also lower than in any of the English towns quoted.

The total number of cases notified during 1926, however, is 1,732 in the former area of the City, compared with 1,600 in 1925, which was probably abnormally low when compared with the number of cases notified in former years. The increase may be attributed to better use of facilities for detection of this disease.

The following statistics deal with cases on the register on the lines of former years:—

Summary of cases as at 31st December, 1926:—

Total cases registered from 1st January, 1910, to 31st December, 1926, ...		38,781
Less—Died, ...	20,961	
(1) Verified on notification, but subsequently—		
Removed and not traced, ...	2,813	
Removed from Glasgow, ...	2,536	
(2) Not discovered on notification:—		
Not found at address given.	1,061	
Notified from Poor Law Institution (with no fixed abode), but still remaining on Register, ...	887	
(3) Subsequently taken off registers as not suffering from pulmonary tuberculosis,	3,925	
		32,183
Total cases under observation at 31st December, 1926,		6,598

The number of cases registered since 1913 is summarised below:—

Year	Cases Registered	Year	Cases Registered
1913-1915 (annual average),	2,425	1924, ...	1,829
1916-1920 ,,	2,410	1925, ...	1,600
1921, ...	2,045	1926 (Old City),	1,732
1922, ...	1,954	1926 Added Area),	63
1923, ...	1,725		

Cases Registered during 1926.—Of the total number of cases registered during the year, 1,572 were notified in terms of the Infectious Diseases (Notification) Act, 1889, and Tuberculosis Regulations, 1912. 13 were sent by the Pensions and Military Authorities, while 210 were ascertained from other sources, as shown below :—

1. *Source of Notified Cases :—*

1. Occurring in private practice, ...			974
2. Occurring in public practice :—			
(*a*) Poor Law cases at home addresses, ...	27		
Poor Law cases from hospitals and poorhouses, ...	213		
Poor Law cases at dispensaries, ...	6		
		246	
(*b*) Charitable dispensaries and infirmaries,	181		
Corporation dispensaries, ...	171		
		352	
			598
Total cases notified, ...			1,572

2. *Source of information in cases not notified :—*

(*a*) From admission and dismissal sheets of Poor Law Institutions, ...	23	
(*b*) School Medical Officers, ...	24	
(*c*) Port Local Authority, ...	3	
(*d*) County Medical Officer, ...	60	
(*e*) From death cards only, ...	100	
		210
3. *From Military Authorities,*		13
Total cases registered, ...		1,795

Cases among Registered Deaths. — Where the first information regarding the occurrence of the disease was obtained from returns of deaths, inquiry was made at the medical practitioner certifying the death regarding the omission to notify. The explanation given in the majority of cases was that the doctor certifying had only seen the patient a day or two before death, and had reason to believe that notification had already been made from some other source. During 1926, 100 instances of this nature occurred, which is equal to 5·5 per cent. of the total cases registered, compared with 105 in 1925, and 96 in the year previous to that.

Place of Residence at Time of Registration.—When a patient is notified from a home address this is visited, and if the case can be definitely located the patient is regarded as a "home" case, even although at the time of notification he is under treatment in an institution. The results of these inquiries may be summarised as follows:—

Cases traced to home addresses, ...	1,647
Cases at home, but not visited at request of medical practitioner, ...	32
Cases where only known address was an institution, ...	116
Cases not found at address given, ...	—
	1,795

Private and Public Notifications.—The figures given in the foregoing summary refer to the total number of cases registered during the year, while the following table refers only to notifications under the Act received regarding the 1,572 cases so notified:—

Notifications	Private	Public	Total	Percentage Public
Primary, ...	974	598	1,572	36·2
Multiple, ...	164	116	280	41·4
	1,138	714	1,852	38·5
Percentage multiple to primary notifications in each group, ...	16·8	19·3	17·8	

Age Distribution of Cases Registered.—This information is given in the following table for each of the three years ending 1926:—

Age	1924 M.	1924 F.	1925 M.	1925 F.	1926 M.	1926 F.
– 5 years, -	48	28	33	31	28	47
– 10 ,, -	67	54	41	43	52	37
– 15 ,, -	57	68	35	62	41	56
– 20 ,, -	101	98	80	102	90	108
– 25 ,, -	109	131	99	131	114	141
– 35 ,, -	191	211	147	180	201	196
– 45 ,, -	202	153	158	119	168	123
– 55 ,, -	123	58	124	57	166	73
– 65 ,, -	65	30	83	28	88	38
Over 65 years,	27	8	31	16	17	11
Total, -	990	839	831	769	965	830
Grand Total, -	1,829		1,600		1,795	

Housing Accommodation of Patients.—The following table gives the house accommodation at the date of registration of such patients as had home addresses. Patients who were in institutions (mostly Poor Law) at the time of notification are included along with those who could not be traced at the addresses given :—

	1924		1925		1926	
	M.	F.	M.	F.	M.	F.
1 Apartment, ...	146	166	117	158	135	142
2 ,, ...	504	427	418	389	464	446
3 ,, ...	157	124	133	130	162	137
4 ,, and up, ...	71	102	85	75	86	84
In Institutions and not traced, ...	112	20	78	17	118	21
Total, ...	990	839	831	769	965	830
Grand Total, ...	1,829		1,600		1,795	

Institutional Treatment.—The following table shows admissions to institutions of patients suffering from pulmonary and non-pulmonary tuberculosis since 1921 :—

Year	Local Authority Hospitals	Sanatoria	Poor Law Institutions	Total
1921, ...	1,904	725	658	3,287
1922, ...	2,018	714	604	3,336
1923, ...	1,959	690	555	3,204
1924, ...	1,840	499	573	2,912
1925, ...	1,531	457	606	2,594
1926, ...	1,637	425	738	2,800

Dispensary Attendances.—The following table shows the attendances and consultations at the various tuberculosis dispensaries in each year, 1924 to 1926. All forms of tuberculosis are included :—

Dispensary	Number of Consultations	Primary Attendances Males	Primary Attendances Females	Subsequent Attendances Males	Subsequent Attendances Females
Year 1924, ...	1,262	2,481		49,069	
,, 1925. ...	1,262	2,328		49,343	
Granville Street,	149	147	152	3,294	1,755
Black Street,	251	255	260	4,644	4,503
Adelphi Street,	222	179	184	3,798	2,399
Acorn Street,	263	186	205	9,761	7,552
Central Area,	151	176	139	2,513	1,753
Govan, ...	208	335	268	4,504	2,960
Year 1926, ...	1,244	1,278	1,208	28,514	20,922
Total, ...		2,486		49,436	
Grand Total, ...		51,922			

Home Visitation by Nurses.—The number of home visits by nurses during the past three years has been as follows :—

1924	1925	1926
50,723	51,075	49,605

Issue of Medical Extras, Beds and Bedding, &c., to Patients under Treatment at Home.—In 1916 the Local Authority was granted power to provide assistance in the domiciliary treatment of patients in the form of extra nourishment and bed and bedding in necessitous cases. These grants were made in 63 cases (medical extras) and 29 cases (bed and bedding). Issues of this nature are only granted after full inquiry, and in cases where the home circumstances are reasonably satisfactory. They are not regarded in any sense as a measure of out-relief, which is always readily granted by the Poor Law Authorities when required.

Issue of Clothing to Patients.—The interest on the purchase price of Bellefield Sanatorium, amounting to about £400 per annum, has continued to be applied to the purpose of providing clothing for necessitous patients proceeding to sanatoria. During the year 1926, 185 patients were assisted in this way, compared with 217 during 1925. The total number assisted since the inauguration of the scheme in 1916 is 2,020.

NON-PULMONARY TUBERCULOSIS.

Tuberculosis in all its forms became compulsorily notifiable on 1st July, 1914. The subjoined table gives the number of cases of non-pulmonary tuberculosis registered during subsequent years :—

Year	Cases Registered	Year	Cases Registered
1914-15 (annual average),	1,303	1923, ...	1,234
1916-20 ,,	1,360	1924, ...	1,221
1921, ...	1,141	1925, ...	1,115
1922, ...	1,050	1926, ...	1,031

The following tables show (1) the distribution of the cases registered in each year in accordance with the location of the disease and sex of the patient; and (2) distribution according to certain age-periods in each year :—

TABLE I.

Showing Non-Pulmonary Tuberculosis Cases Registered During 1914–1926, with Location of Disease and Sex.

Year	Glands		Bones and Joints		Abdomen		Meninges		Multiple		Others		Total	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1914,* ...	159	153	239	186	79	45	73	47	11	18	70	62	631	511
1915, ...	176	232	192	156	135	104	137	123	52	27	71	59	763	701
1916, ...	199	216	185	138	155	136	136	140	40	18	75	64	790	712
1917, ...	203	266	196	170	155	113	93	95	41	34	70	57	758	735
1918, ...	186	265	158	143	119	128	92	107	34	30	78	72	667	745
1919, ..	138	178	164	127	126	123	93	86	40	29	56	47	617	590
1920, ...	138	145	193	168	116	112	89	83	39	29	44	29	619	566
1921, ...	149	171	165	127	116	84	78	74	27	29	68	53	603	538
1922, ...	134	147	141	124	130	111	75	66	20	24	42	36	542	508
1923, ...	145	155	181	129	145	118	102	75	16	15	78	75	667	567
1924, ...	149	150	145	130	140	144	104	81	35	36	65	42	638	583
1925, ...	145	137	150	139	131	114	75	65	29	24	54	52	584	531
1926, ...	135	137	142	131	115	109	78	57	24	35	35	33	529	502
Total, ...	2,056	2,352	2,251	1,868	1,662	1,441	1,225	1,099	408	348	806	681	8,408	7,789
Grand Total,	4,408		4,119		3,103		2,324		756		1,487		16,197	

* Figures for six months ending 31st December, 1914.

TABLE II.

Age Distribution of Non-Pulmonary Tuberculosis Cases Registered During each Year, since Commencement of Notification on 1st July, 1914.

Year	Under 1 year		1-5 years		5-10 years		10-15 years		Over 15 years		Total	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1914, ...	60	21	132	90	140	102	134	115	165	183	631	511
1915, ...	59	49	236	161	164	140	112	108	192	243	763	701
1916, ...	64	45	244	152	149	123	108	164	225	228	790	712
1917, ...	52	48	190	134	157	156	117	149	242	248	758	735
1918, ...	30	33	163	169	137	125	129	142	208	276	667	745
1919, ...	45	28	151	109	142	123	78	136	201	194	617	590
1920, ...	57	35	143	122	128	137	110	94	181	178	619	566
1921, ...	51	35	157	111	133	122	81	94	181	176	603	538
1922, ...	38	28	175	150	103	87	71	79	155	164	542	508
1923, ...	59	19	214	165	116	112	86	79	192	192	667	567
1924, ...	50	39	212	171	96	99	103	85	177	189	638	583
1925, ...	48	22	184	144	111	103	71	77	170	185	584	531
1926, ...	28	22	162	127	109	88	63	78	167	187	529	502
Total, ...	641	424	2,363	1 805	1,685	1,517	1,263	1,400	2,456	2,643	8.408	7,789
Grand Total, ...	1,065		4,168		3,202		2,663		5,099		16,197	

The decline in the incidence of tuberculosis of the lung has been made the subject of special study by Dr. J. A. Wilson, who has gone over the data for the industrial wards in the East End of Glasgow. He finds that a very marked and rapid fall has taken place in the extent to which adults over 25 years of age are affected. Some of the results of this important inquiry may be given:—

THE AGE-FACTOR IN THE INCIDENCE OF TUBERCULOSIS.

By Dr. J. A. Wilson.

During the past two years an investigation has been carried out on the incidence of pulmonary tuberculosis in the Eastern District of Glasgow. This district, locally known as "the East End," is essentially an industrial area of 3,038 acres. The industries carried on are of the most varied character, and include large engineering works, gas-works, sewage works, factories, mills, and certain offensive trades.

The population, as estimated in 1924, is 227,000. Its density per acre varies within wide limits in the seven Municipal Wards which compose the district. Excluding unbuilt ground, and ground occupied by large industrial concerns, the density is lowest in Shettleston and Tollcross, 117 per acre, and highest in Calton, where it is 224.

The Material on which the Investigation is Based.—From 1910 to 1924, a period of fifteen years, 3,817 persons in this district died of pulmonary tuberculosis. Of these, 1,937 were males, 1,880 were females. The diagnosis of pulmonary tuberculosis was based on clinical data only in 1,530, roughly 40 per cent., while in 2,287, or 60 per cent., the diagnosis was confirmed by the finding of tubercle bacilli in the sputum, by X-ray examination, and in some cases by *post-mortem* examination.

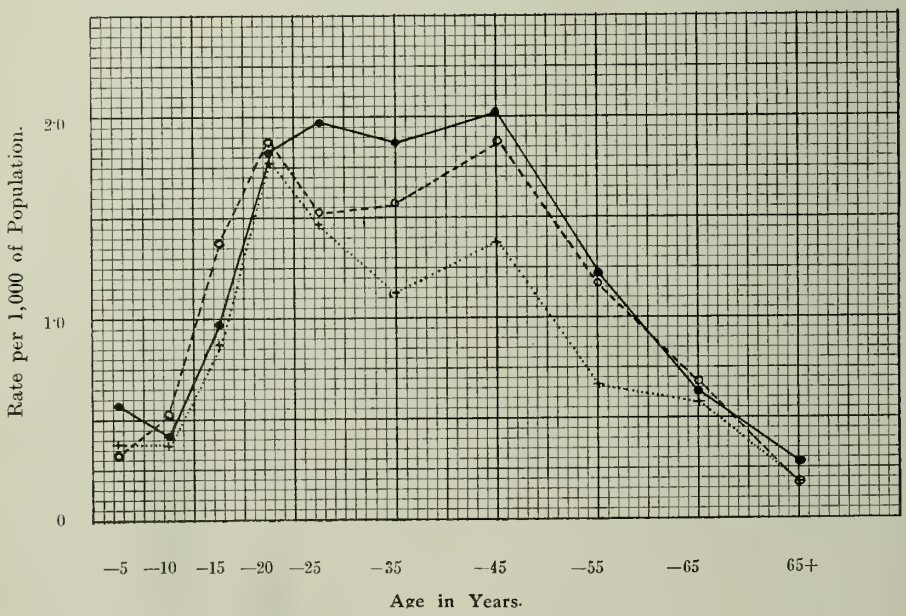
The death-rate in the period under review has shown considerable variation. In 1910 the rate was 12 per 10,000 population. In 1911 it rose to 15·1, and fell in the following two years to 14·3 and 11·9 respectively. During the next three years it rose again, to reach its maximum of 15·9 in 1917. Thereafter a rapid declension of the rate occurred, which has been continuous, except for slight rises in 1921 and 1923, the lowest rate of 8·7 being reached in 1924. The death-rate from pulmonary tuberculosis for the Eastern District of Glasgow in 1924 is therefore about two-thirds of what it was in 1910, and nearly one-half of that in 1917.

In the study of these fatal cases of pulmonary tuberculosis three points of considerable epidemiological interest emerged. The first feature concerns the change which has occurred in the age-distribution of the disease; the second, the influence of the age at onset of symptoms

PULMONARY TUBERCULOSIS.

Chart 1.—Invalidity Incidence.—Males.

Chart 2.—Invalidity Incidence.—Females.



1910-14———— 1915-19 – – – – 1920-24.....

to the duration of illness, that is the expectation of life; thirdly, the relationship of the incidence of the disease to the housing of the population.

The Change in the Age-Distribution of Pulmonary Tuberculosis.—It has been shown that a decline has occurred in the death-rate from pulmonary tuberculosis in this district, and it would seem as if the outlook was satisfactory. Yet, when the fatal cases are analysed, it is found that the decline has not occurred equally in the various age-groups.

The fifteen-year period has been divided, for convenience of analysis, into three groups of five years—1910-14, 1915-19, and 1920-24—and a comparison made between the rates per 1,000 population in the various age-groups.

Investigations, dealing with the age-factor in infective diseases, are invariably based on the age at death of the persons. In diseases such as scarlet fever or diphtheria, which when fatal are of short duration, the age at death is for all practical purposes the age of onset of symptoms. It is not so in pulmonary tuberculosis. In pulmonary tuberculosis we are dealing with a disease of variable duration, it may be a few months or several years, therefore statistics based on the age at death give an erroneous impression of the distribution of the disease; they under-estimate the incidence of the disease under 25 years, and over-estimate it above that age.

In the present inquiry the age of onset of symptoms is used, and the results of the comparison of these invalidity rates in the various age-groups are shown in Charts 1 and 2.

Chart 1 demonstrates the change in the age-distribution in males. It will be observed that in the first period, 1910-14, there is a low incidence of the disease under fifteen years, ·56, ·40, and ·49 in the three age-groups. Thereafter a rapid rise in the rate occurs, the maximum of 2·2 being reached in the 21-25 age-group. The rate is appreciably lower from 26-45 years (1·62 per 1,000), but a further rise occurs in between 46 and 55 to 1·85, after which the rate falls to 1·46 and ·39 in the two last age-groups.

In the second period, 1915-19, the rate is very slightly higher at ages up to 20 years. At 21-25 the rate is lower than in the previous period, 1·81 as compared with 2·22. From 26 years onwards the rate is in excess, and considerably so between the ages of 36 and 65—2·20, 2·47, and 2·12, as against 1·62, 1·85, and 1·46.

In the last period, 1920-24, a lower rate is recorded at all ages over the 1915-19 figures, and all ages except the 16-20 age-group in those of 1910-14.

In females, Chart 2, a slightly different distribution occurs. During the 1910-14 period the incidence is low under 10 years—·59 from 0-5, and ·45 from 6-10. In the next age-group, 11-15, the higher susceptibility of the female becomes apparent, the rate rising to 1·01, compared with ·49 in the male of similar years. This higher

susceptibility is usually ascribed to the developmental changes occurring at this period, but in industrial areas it is found that the girl on coming home from school has usually to undertake numerous domestic duties, while her more fortunate brother is playing games on the street. At 16-20 there is a further rise to 1·89, and in the succeeding group to 1·99. A slight remission occurs at 26-30, the highest rate of 2·03 being obtained in 36-45 age-group. Over 45 years the decline is rapid and uninterrupted, much earlier than in the male.

In 1915-19 the rate is lower under 5 years, ·37 as against ·59. From 6-20, however, the rate is higher, most pronounced in the 11-15 age-group, where the rate is 1·39, compared with 1·01 in the previous five-year period. A slight increase is noted at 16-20, but from 21 to 55 the rate is lower, especially between 21 and 35 years. At ages over 46 years the variations are slight.

During the last five years, 1920-24, a decline occurs at all ages except the extremes of life. This decline is very slight at the 16-20 and 55-65 age-groups, as compared with the two previous five-year periods.

In the correlation of these findings it will be noted that a change has occurred in the age-distribution of this disease during the years 1910-24. This change has taken the form of a reduction of the incidence of the disease at certain age-groups, particularly at ages over 20 years, and is more uniform in females than in males. It is of interest that it has occurred at those ages when the more chronic forms of the disease are most frequently met with.

The casual factors of this decline have not been determined. In males much of the significance of the reduction of incidence during 1920-24 is lost by the increased incidence in the higher adult age-groups during the abnormal conditions of the war years, while in the lower adult age-groups, many who probably would have developed the disease, died of other causes connected with the war. Yet in females, who were not subjected to the same vicissitudes during the war years, the decline is progressive, except at ages up to 20 and over 65 years. The problem, it would seem, is insoluble in the present state of our knowledge. The serious and certain fact is that the disease is tending to become one mainly of young adult life.

The Expectation of Life in Pulmonary Tuberculosis.—The duration of illness, that is, the period between the onset of symptoms and the date of death being known, the mean after-life time was calculated for the various age-groups. The figures for certain age-groups were found to be approximately similar, and it became evident that they could be combined for further investigation. The following larger groups were formed: – 5; 6-20; 21-40; 41 + for each sex.

If it is assumed that all the cases in each group sickened on the same day, there is material in the figures for the construction of the survivors' column of a life-table, from which can be calculated the mean after-life time or expectation of life, at date of sickening, and at various periods thereafter, according to the age at sickening.

Table I shows such a life-table compiled from these data :—

EASTERN DIVISION OF GLASGOW.—PHTHISIS CASES. MEAN AFTER-LIFE-TIME OF CASES AT DATE OF SICKENING, AND AT INTERVALS THEREAFTER, ACCORDING TO AGE OF CASE AT DATE OF SICKENING.

Period from date of Sickening	Males				Females			
	–5	6–20	21–40	41+	–5	6–20	21–40	41+
0	·95	1·97	2·71	1·95	·80	1·46	1·74	1·64
6 months, ...	2·13	2·30	2·89	2·15	1·79	1·74	1·76	1·82
1 year, ...	2·52	2·35	3·04	2·29	2·69	1·95	1·91	1·97
1½ years, ...	3·15	2·41	2·94	2·31	3·25	2·02	2·03	2·14
2 ,, ...	3·82	2·63	3·37	2·54	3·12	2·57	2·47	2·82
3 ,, ...	3·16	2·53	3·45	2·67	3·71	2·57	2·54	2·80
4 ,, ...	3·53	2·60	3·47	2·74	2·71	2·24	2·61	2·60
5 ,, ...	4·05	2·46	3·24	2·73	2·25	2·15	2·41	2·51
6 ,, ..	3·05	2·26	3·15	2·24	1·25	1·89	2·25	2·58
7 ,, ...	4·58	1·92	2·92	1·81	1·00	2·65	2·30	2·18
8 ,, ...	3·58	1·93	2·73	1·63	0·46	2·19	1·88	1·44
9 ,, ...	2·58	1·62	2·61	1·62	—	1·43	1·32	·88

Under 5 years the expectation of life is low, ·95 in males, ·80 in females. The disease occurring at this age-period is, in its most characteristic form, a broncho-pneumonia or an acute miliary tuberculosis, and is rapidly fatal. But the adult type of the disease does occur to the extent of 9 per cent. in males, and 12 per cent. in females, and tends to run a chronic course. This accounts for the marked improvement in the expectation of life six months after onset and at succeeding periods.

The 6-20 period may be regarded as the transition stage from the broncho-pneumonic to the adult type of the disease. The expectation of life is materially increased, 1·97 in males, and 1·46 in females. But one year after onset the expectation figure is lower than the corresponding figures in the younger group. The explanation may be that the disease is essentially of an acute or subacute character, and the tendency to broncho-pneumonic dissemination is always present even in the typical adult forms of the disease.

From 21-40 the expectation of life is best in both sexes, 2·71 in males, and 1·74 in females. This group shows fewer acute cases dying within six months of onset. It is essentially the group which provides the cases of chronic disease, and the tendency to chronicity is much more marked in the male.

Over 41 years the expectation of life is again diminished, 1·95 in males, and 1·64 in females. It will be observed that the figure in males is lower than that for the 6-20 group, which was rather opposed to one's preconceived idea. The type of disease is essentially adult, and is subacute in character. The method of spread at this age-group would seem to be lymphatic rather than broncho-pneumonic. In females, on the other hand, the expectation figure is better than in the preceding group until the third year after onset, and is consistently better than the 6-20 group until the sixth year.

At all ages the expectation of life in the females is less than that of the males.

The Relation of Pulmonary Tuberculosis to Housing.—The third epidemiological feature to claim attention is the relation of this disease to the housing of the population. The Eastern District is essentially an industrial area where the houses are of the smaller types. Of the total houses in this area, 26 per cent. are of one apartment, 53 per cent. are of two apartments, 16 per cent. of three apartments, while only 5 per cent. of the houses are of four or more apartments. 79 per cent. of the houses, then, are of one or two apartments.

To demonstrate this feature the average annual incidence of the disease per 1,000 population in the various age-groups has been calculated for the types of houses, the results being shown in Chart 3. The number of cases occurring in the four or more apartment houses is too small to be of any comparative value.

In males, despite the fact that the house *per se* has less influence than in females, owing to consideration of employment, &c., a relationship of a definite character has been established between the size of house and the average annual incidence of the disease. Associated with an increase in the size of house there is a diminished incidence of the disease, most marked in the young adult and at ages from 46-65 years. At 11-15 and 21-25 years this relationship has not been established, there being an increased incidence in the two-apartment houses, while at the extremes of life the effect of the size of house is variable.

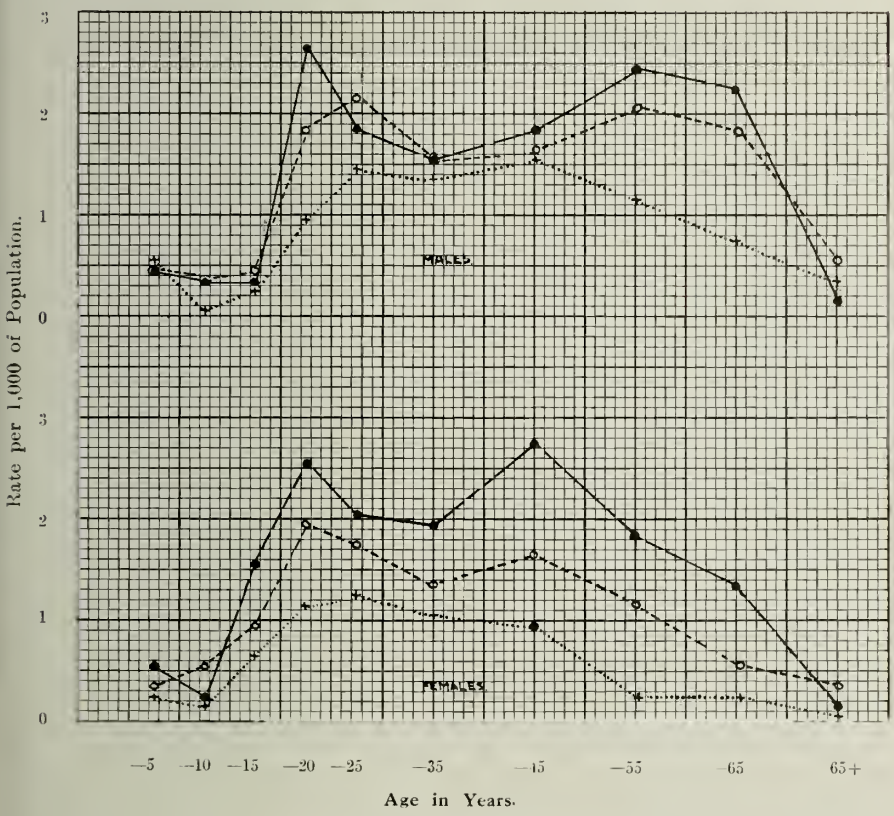
In females the results are more uniform in character. At all ages, except 6-10 years and over 66 years, the improvement in the housing status is represented by a marked decline in the incidence of the disease.

In comparing the sexes with the housing state, it is interesting to note that in the one-apartment houses female incidence exceeds the male at age-groups −5, 11-15, and 21-45 years, while in the larger houses the female rate exceeds the male from 6-20 years only, the male predominating in the other groups.

These graphs, it is suggested, demonstrate in a forceful way the important bearing of housing on the incidence of this disease, the larger houses being associated with a diminished incidence in most age-groups. Much has been written in condemnation of the one-apartment house, and if further condemnation were needed the material is to be found in these results. But it has to be remembered that the house, in an industrial area, is only a reflex of the economic condition of the inhabitants, so that any scheme of prevention must deal with the problem from both angles.

PULMONARY TUBERCULOSIS.

Chart 3.—Average Annual Incidence (1910-1924) according to Sex and Housing.



One Apartment———— Two Apartment– – – – Three Apartment.....

MEMORANDUM ON ACTINOTHERAPY IN TUBERCULOSIS.

By Dr. R. J. Peters.

Irradiation by ultra-violet rays has become extensively recognised during the past twenty years as a therapeutic measure of great value. The results obtained in rickets, both experimentally and clinically, prove beyond all possibility of doubt that this is so. Abundant evidence is also obtainable from the results in many other diseases, but rickets is referred to because it is a disease which is very easily produced experimentally, and the experiments are readily controlled. The question now waiting to be solved is, how best to employ this agency in the treatment of disease? In what way are these rays most successfully employed? What dosages, what apparatus, and what method and frequency of application give the best results? Around these points a voluminous literature is growing, and evidence is accumulating to show that the efficient control of this potent agent is becoming almost as important as the agent itself. Close observation of cases under treatment is necessary, not so much lest actual harm be done, a practically unknown occurrence when treatment is carried out with any care, but in order that the optimum results may be obtained—indeed, in many cases in order that any result at all may be obtained.

Principal Applications to Work of Public Health Department.—In tuberculosis the chief applications and general opinions regarding these are as follows :—

Major Tuberculosis— Pulmonary tuberculosis. Deep involvement of bone. Larger joint cases.	In these it is a valuable adjuvant to other treatment in hospital. In pulmonary cases it has to be used with great care.
Minor Tuberculosis— Superficial bone infection. Dactylitis. Mild abdominal cases. Lupus. Minor degrees of adenitis.	In these cases it is of great value, often producing a cure without any other treatment.

Under the influence of ultra-violet rays regeneration of tissue and restoration of function is often brought about to an extent which cannot be produced by any other method of treatment. Tuberculosis and rickets are the principal diseases which the Local Authority in Glasgow treat at the present moment, and besides these there are other conditions, which it may in the near future be thought desirable to treat in this way.

The following are the requirements of a clinic suitable for treating out-patients :—

1. There should be a waiting-room for patients and their friends. In this patients could rest for a short time before leaving after their treatment.

2. Two dressing-rooms, one for males and one for females, should be provided. These should have lockers for holding patients' clothing while they are having treatment.

3. A doctor's room, with facility for examining cases and for dressing wounds, &c., if necessary.

4. A sister's room. In this room records, &c., would be kept.

5. The treatment-room containing the apparatus should be divided into two portions, one for general and the other for local treatment.

6. There should be a sanitary annexe, containing spray baths, lavatories, &c.

7. Other accommodation such as staff room, linen room, and maids' store.

Apparatus.—The treatment-room should contain the following apparatus :—

1. Carbon arc lamps. These should have amperages of 75 and 30.

2. Quartz mercury vapour lamps. These are necessary for both general and local irradiation. At least one air or water-cooled quartz mercury vapour lamp is required for intensive treatment of certain cases.

3. Apparatus for the local application of radiant heat is now considered a necessary adjunct.

The possibility that other physio-therapeutic apparatus may be installed at a later date should be remembered, and some space left which would accommodate this.

Staff.—The number of lamps and the extent of the accommodation depends upon the numbers of patients to be treated. To run a clinic well it is necessary to have a sufficient staff. One nurse in charge and one other nurse as a masseuse should be present while the clinic is open. The physician should attend frequently, and keep in close touch with all the patients. He should see daily those patients who are undergoing intensive treatment.

I. *Baird Street Apparatus and Accommodation.*—In Baird Street there are in use :—

Basement.—12 carbon arc lamps of 10 amperes; 8 carbon arc lamps of 20 amperes.

These are considered low amperage lamps, and having in view the recent additions to our knowledge of the successes obtained by high amperage lamps, they are not expected to give the best results in all cases.

II. One quartz mercury lamp suitable for giving general irradiation to one case at a time. This lamp is also used to give local treatment.

Bathing Accommodation.—It is essential in every case that the patient should have a preliminary hot bath (preferably a spray), to remove sweat, grease, &c., from the skin. A cool spray and a brisk rub down after treatment adds considerably to the tonic effect of the irradiation.

In spite of drawbacks the results have been on the whole encouraging. This clinic has now been open for over eighteen months. There is given below a series of short tables showing roughly what has been done during that time.

Results.—Cases dismissed from the clinic :—

1. Abdominal Tuberculosis.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over six months, ...	1	1	—	—	—
Over three months, ...	5	4	1	—	—
Less than three months, ...	6	2	—	3*	1 died
Total, ...	12	7	1	3	1

*One, advanced Amyloid disease, any treatment hopeless. One had only three weeks' treatment, and the third had only a few exposures.

It is, however, worth noting that confirmation of the diagnosis of abdominal tuberculosis is somewhat difficult. The point which it is intended to emphasise is that these children had something wrong with them causing debility, and the numbers shown recovered under the influence of ultra-violet radiation. Six of the cases were treated as indoor patients, including the case who died and that shown as not improved. This latter was transferred to Robroyston.

2. Tuberculosis of Bones and Joints.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over one year,...	—	—	—	—	—
,, nine months, ...	3	—	1	2	—
,, six ,, ...	8	3	1	2	2 (?)
,, three ,, ...	5	2	1	2	—
Less than three months, ...	27	1	2	24*	—
Total, ...	43	6	5	30	2

*Out of these 24 none had anything like a complete course of treatment, 2 were on the list for 7 and 10 months respectively, but attended only spasmodically. One died of Influenza, one was an unsuitable case, and another was transferred to Robroyston after a few exposures. The cases with extensive or deep-seated bone lesions have not done well. Better results would in all likelihood be obtained with the 75 ampere carbon arc lamp, aided by a water, or air cooled lamp for local therapy.

3. Lupus.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over one year,...	2	2	—	—	—
,, nine months, ...	1	1	—	—	—
,, six ,, ...	3	2	1	—	—
,, three ,, ...	6	2	2	—	2 went elsewhere
Less than three months, ...	18*	—	—	—	—
Total, ...	30	7	3	—	2

* All with scanty or no attendance.

Lupus cases on the whole do well. The above list shows, of course, the cases in which treatment has been stopped. The really bad cases which have come to the clinic are still attending, and in certain of them, as will be shown, the results are not so striking. Fibrous and chronic nodular types of the disease are very resistant, and mostly seem to require intensive treatment.

4. Cervical Glands.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over one year, ...	2	2	—	—	—
,, nine months, ...	1	—	—	1	—
,, six ,, ...	7	5	—	2*	—
,, three ,, ...	3	1	1	—	1 went elsewhere
Less than three months, ...	17	2	1	14†	—
Total, ...	30	10	2	17	1

* Attended irregularly.
† 13 of of these had few or no attendances.

The types of case here mentioned are mainly small glands, with sinuses and secondary skin infection, ulcers, and superficial gland abscesses. These invariably do well under out-patient conditions. Reduction of keloid scars and of small collections of fluid in scars is also obtained satisfactorily, but the results could be very much improved were more time devoted to those cases. Concurrent aspiration, injection, and other local surgical measures could be more thoroughly employed. Extensive adenopathy of the neck is not so amenable to treatment, and probably is more satisfactorily dealt with by X-rays, and in certain cases excision.

5. Dactylitis.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over six months, ...	1	1	—	—	—
,, three ,, ...	1	1	—	—	—
Less than three months, ...	5	2	1	2*	—
Total, ...	7	4	1	2	—

* Both of these took Infectious Disease.

Dactylitis is a form of tuberculosis which is easily recognised, and is very amenable to treatment by ultra-violent rays.

6. The other Cases included—

Chronic Basal Catarrh—3 attended for 10, 6, and 11 months respectively. All improved but tend to relapse on cessation of treatment.

Pulmonary Tuberculosis, 3—2 attended for 8 and 9 months respectively, disease stationary.

Eye Diseases, 3—2 attended for 2 and 3 months respectively, one healed, one improved.

Trachoma and Ophthalmia.—These cases are few in number, but Dr. MacMillan thinks they have benefited.

Others.—Axillary adenitis; malnutrition; diarrhœa; epididymitis; &c., amyloid diseases, are included in the remainder. Many, however, did not attend regularly.

With regard to the cases of chronic basal catarrh, these invariably improve while under treatment. Their general condition ameliorates and symptoms and physical signs abate, but on cessation of the treatment the condition tends to relapse.

Cases at present Attending.—There are at present attending the clinic 117 patients, and some figures are given with regard to these cases :—

1. Abdominal Cases.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over three months, ...	9 (6 in-patients)	—	1	—	8 are new patients

2. Bone and Joint.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over one year, ...	1	—	1	—	—
,, nine months, ...	1	—	—	1	—
,, six ,, ...	5	1	2	2	—
,, three ,, ...	3	—	1	2	—
Less than three months, ...	5	—	1	—	4 new cases
Total, ...	15	1	5	5	4

Certain of these cases were advanced diseases of bone, and long duration, and certainly not likely to benefit by the application of ultra-violet rays alone. Treatment, using a water or air-cooled quartz lamp, with local quartz applicators, should be tried in many of these cases.

3. Lupus.

Length of Treatment	No. of Cases	Healed	Improved	Not Improved	Remarks
Over one year, ...	9	1 (?)	6	2	—
,, nine months, ...	7	2 (?)	5	—	—
,, six ,, ...	8	3 (?)	5	—	—
,, three ,, ...	4	—	3	1	—
Less than three months, ...	7	—	1	6	—
Total, ...	35	6	20	9	—

It is to be noted that there is a considerable number of cases who have been attending for long periods, and can have no more said about them than that they are improved. These, in certain instances, are cases where the disease has been present for very long periods, in some for ten years or more. It is perhaps asking too much to expect that disease of such long duration can be eradicated within a year. Again, many of these lesions can only be adequately dealt with by intensive treatment.

4. Glands of Neck.

Length of treatment	No of Cases	Healed	Improved	Not Improved	Remarks
Over one year, ...	—	—	—	—	—
,, nine months, ...	—	—	—	—	—
,, six ,, ...	1	1	—	—	—
,, three ,, ...	12	1	10	—	1 (?)
Less than three months, ...	22	2	11	2	7 (?)
Total, ...	35	4	21	2	8

The list of glandular cases has a large proportion of new patients who have not yet had much treatment.

5. Dactylitis.

Length of attendance	No. of Cases	Healed	Improved	Not Improved	Remarks
Over three months, ...	2	1	1	—	—
Less than 3 months, ...	2	1	—	—	1 (?)
Total, ...	4	2	1	—	1 (?)

6. Besides these cases there are a few patients—about 15—suffering from other diseases attending. These include trachoma, keratitis, pulmonary catarrh, &c. There are also a few cases of post-encephalitic disease on the list, but it is too early to say whether these are benefiting or not.

Extension of Scope desirable.—From the results given it is evident that the time has come to place treatment by ultra-violet rays on a more definite footing. Hitherto the apparatus has been of an experimental kind, got together with the minimum of expense and worked with the minimum of staff. If the figures given, taken together with the results obtained in other cities, are regarded as establishing that this method of treatment is of value, then the time has come to consider the reorganising of the clinic with the view to bringing it up to the highest possible standard of efficiency.

The suggestions contained in this report have been given effect to, and approval has since been obtained to improve the clinic by installing the following lamps:—6 arc lamps, 30 amperes each; a 4-electrode carbon arc lamp; quartz mercury vapour lamp, for general irradiation; atmospheric quartz mercury vapour lamp; air-cooled ditto; radiant heat apparatus. Certain structural alterations have also been approved, *i.e.*, provision of two dressing-rooms, and increase in bathing facilities.

INSTRUCTIONS TO PATIENTS ATTENDING THE ACTINOTHERAPY CLINIC AT BAIRD STREET.

The following instructions are given to those attending:—

The ultra-violet radiation employed in this clinic produces its beneficial effects only slowly, and therefore in most cases patients must be prepared to attend regularly for, perhaps, many months.

Regularity in attendance is essential, as the good effects are wasted if the treatment is interrupted.

As the action of the rays is on the surface of the skin, it is necessary that this should be perfectly clean, and free from sweat, grease, &c.

Patients having *general* irradiation will require to have a preliminary bath. Each patient should therefore bring along the following articles :—

(1) Towel and sponge.

(2) Coat or cloak to wear when going to and from bathroom.

(3) Pair of bathing pants (*not* a costume) of triangular pattern.

(4) Eye shade or tinted goggles.

The bath should consist of a thorough cleansing of the skin of the whole body with soap and hot water, followed by drying, after which the patient proceeds at once to the treatment-room, where the exposure to the rays is given. On completion of the treatment a sponge down with tepid water, followed by a brisk rub with the towel, will often be found refreshing.

X-RAY DIAGNOSIS AND TREATMENT.

During the year 1926, 3,149 patients were examined at Ruchill and Robroyston Hospitals—2,316 at the former, 833 at the latter. Nothing has occurred during this period to cause us to alter the opinions expressed in last year's report. Rather has the experience strengthened these opinions. The number of cases with negative X-ray reports who subsequently develop pulmonary tuberculosis remains negligible.

An interesting feature of the year's work has been the large number of post-pneumonic pulmonary lesions which have come under review—cases of delayed resolution, interlobar pleurisies, and empyemata. Such cases are notified to the Local Authority as suffering from pulmonary tuberculosis, and without the help of X-ray photographs would require long periods of observation at dispensaries. The majority of such cases show a complete return to normal in three months, and do not appear to be unduly susceptible to tubercular infection.

A study has been made of the condition of the bones of rachitic children before, during, and after treatment with ultra-violet radiation. The improvement, as seen in the bones, appears to be very slow, but it has to be remembered that we are dealing with a very chronic disease, which has existed months before treatment has been undertaken.

The therapeutic properties of X-rays have been utilised in the treatment of cases of tuberculosis of the glands of the neck. The procedure adopted is to give twelve weekly doses of 20 milliampere minutes, filtered through 4mm. of Al. at a distance of 9 inches and 100 kilovolts. There is then a period of rest of six weeks, and then another similar course is given.

In the present series there are 58 patients. Broadly, they fall into three groups; firstly, those who show a discrete swelling of the glands of the neck; secondly, those cases where the enlarged glands have become matted together and massive swellings formed; lastly, a group of cases in whom the glandular masses have softened and sinus formation resulted.

Table I shows results of treatment in relation to the number of exposures. It is not necessary to analyse this table in detail, but certain observations fall to be made:—

TABLE I.—TABLE SHOWING RESULTS OF TREATMENT IN RELATION TO NUMBER OF EXPOSURES.

	Healed—9 No. of exposures				Very much improved—16 No. of exposures				Improved—20 No. of exposures				Not improved—13 No of exposures				
Type	12	24	36	48	12	24	36	48	12	24	36	48	12	24	36	48	Total
Discrete, ...	2	2	1	2	2	3	1	—	5	1	2	2	1	—	—	—	24
Massive, ...	—	—	—	—	1	4	1	—	1	3	1	1	8	2	1	1	24
Sinus, ...	—	—	—	2	2	2	—	—	—	1	2	1	—	—	—	—	10
	2	2	1	4	5	9	2	—	6	5	5	4	9	2	1	1	58

The choice of case has an important bearing on the results of treatment. It is a general experience that discrete cases of glandular tuberculosis react well to X-ray therapy. In the present series there are 24 cases of this type, and only one failed to improve under treatment, a patient who showed a hyper-sensitiveness to X-rays, the treatment being suspended.

In the massive cases the general results are not so uniformly good. This type of case sometimes shows a tendency to rapid breaking down of the mass with resulting abscess formation, an undesirable occurrence, though no evidence of a rapid spread of the disease has been observed. It is difficult to anticipate such an occurrence, for it frequently happens that the breaking down glands are deeply placed and obscured by a firmer layer of glands.

In this group there were also 24 patients, and it will be observed that 12 showed no improvement, none were healed, 6 improved, and 6 very much improved. In the majority of the cases which failed to improve, the X-rays had the effect of producing a rapid softening.

In the last group, those showing sinus formation, there were 10 patients, all of whom were improved by the treatment, 2 being healed. It is felt, however, that it would be wiser to treat such cases by general irradiation with a mercury vapour or other lamp until such time as the sinuses have healed, thereafter using X-ray therapy.

It has been noted that most of the patients suffering from glandular lesions are poorly nourished, sometimes anæmic, it may be as the result of a specific toxæmia. As the glandular condition improves there is no coincident improvement in the general condition, and it is suggested that the rest-period between courses of treatment might be utilised by general irradiation with a mercury vapour lamp, and a tonic effect so obtained.

TABLE II.—Showing results of treatment and number of exposures in relation to Duration of Lesion.

Duration of Lesion	Healed—9 Number of Exposures				Very much improved—16 Number of Exposures				Improved—20 Number of Exposures				Not improved—13 Number of Exposures				Total
	12	24	36	48	12	24	36	48	12	24	36	48	12	24	36	48	
Three months, ..	—	1	—	—	—	3	—	—	2	1	—	—	1	1	—	—	9
Six ,, ...	—	—	1	1	2	—	1	—	2	—	—	—	—	—	—	—	7
One year, ...	1	—	—	—	—	1	1	—	1	2	1	—	3	1	—	—	11
Two years + ...	1	1	—	3	3	5	—	—	1	2	4	4	5	—	1	1	31
	2	2	1	4	5	9	2	—	6	5	5	4	9	2	1	1	58

It is desired to emphasise the importance of the early treatment of such glandular cases. In Table II is shown the relation of the duration of the disease to the results of treatment and the number of exposures. It will be seen that of 42 cases which had existed for over six months, 11 were not improved by treatment, while of the 16 cases of less duration, only 2 failed to respond, 1 of whom was the case referred to above, who reacted badly to the treatment.

The permanency of the results is a matter of some importance, and it is too early to state what will happen in this group of cases. An impression, however, may be obtained by a reference to a series of 30 cases which were treated by this method during the years 1921-23—23 have remained healed, 4 have relapsed, 2 have died of pulmonary tuberculosis, while 1 has been lost trace of. These results, it is suggested, are of a most gratifying character, and are a warranty for the continuance of this method of treatment.

FERGUS L. HENDERSON.
Radiologist.

TREATMENT OF PULMONARY TUBERCULOSIS BY ARTIFICIAL PNEUMOTHORAX.

By Dr. T. M'Gowan.

	Before May 1926.	After May 1926.	Total.
1. No. of cases in which treatment was attempted during year, ...	4	7	11
2. No. in which at subsequent operation the pneumothorax was complete or almost complete, ...	0	3	3
(*a*) Improved, ...	—	3	—
(*b*) Not Improved, ...	—	—	—
3. No. in which pneumothorax was partial—			
(*a*) Improved.	1	2	3
(*b*) Not Improved, ...	—	—	—
4. No. in which the operation was unsuccessful,	3	2	5

5. In the above cases the indications for this treatment resolved themselves into three classes—

(*a*) To replace a pleural effusion;

(*b*) Very extensive active disease of one lung with early involvement of the other. Chronic type of case, with little febrile disturbance, some toxæmia, and troublesome cough and spit; and

(*c*) Extensive rather acute disease of one lung, with a marked degree of toxæmia, a fluctuating temperature, and troublesome cough and spit.

The failure to induce artificial pneumothorax in some cases was due to extensive pleuritic adhesions. Other contra-indications which restrict me attempting this treatment are—

(*a*) Extensive bilateral disease or bilateral disease with an equal amount of activity; and

(*b*) Complications of pulmonary tuberculosis, *e.g.*, tuberculosis of larynx or intestines, &c.

6. There have been no serious ill-effects in any of the cases attempted since May, 1926.

The improvement in above cases is essentially that based on the immediate results from collapse of the diseased lung, as it is too early for me to give an indication of the later results of this treatment. In all the successful cases the patients have themselves noted the beneficial results, especially in regard to cough and spit.

The improvement can be observed after the fourth or fifth injection, according to the collapsibility of the affected lung, and is demonstrated generally by a feeling of more vigour and well-being and no tendency to night sweats. One of the outstanding features of the improvement is noted by the patient, and that is regarding the cough and spit. Previous to the induction of artificial pneumothorax the cough is hard, hacking, spasmodic, and very troublesome night and day, with a copious purulent sputum. After pneumothorax is successfully induced the cough is very markedly decreased and the sputum correspondingly diminished. In one case the cough is only now present in the early morning with one or two spits, while in a more severe case where the disease was much more acute, and where the patient filled three sputum mugs per diem, the cough is present at long intervals during the day, absent all night, and the quantity of sputum is reduced to about one ounce. Another marked improvement, especially in the more acute types, is the fall in temperature and pulse rate. Previous to treatment there is a fluctuating temperature of 3° to 4° F. daily, which after three or four injections becomes much less swinging, and soon subsides to normal. A similar thing is found to take place in the more chronic cases, but the result is less spectacular. Examination of the chest shows limitation to a marked degree on affected side. X-ray findings confirm the clinical report, and demonstrate the diseased lung collapsed or partially collapsed as the case may be.

In my opinion, this form of treatment has had very satisfactory results in the more acute cases when unilateral active disease caused a profound toxæmia. In two of my cases I venture to suggest it was the means of saving their life. In the more chronic cases it appeared to give an impetus in the right direction when otherwise they were in a stationary condition or in a slow downhill trend.

Three patients with abdominal tuberculosis were treated by artificial pneumoperitoneum, *i.e.*, introduction of oxygen into the abdomen, with good results in each case.

Ruchill Hospital,
Glasgow, 8th February, 1927.

RUPPEL SERUM TREATMENT OF TUBERCULOSIS.

At the instance of the Scottish Board of Health, the Medical Officer of Health, accompanied by Dr. R. M. Buchanan and Dr. J. A. Wilson, along with Dr. E. Watt of the Board's staff, investigated in Germany the treatment of tuberculosis by means of Ruppel's serum. A full report was presented to the Committee, who authorised the trial of the serum at Robroyston Hospital, where its experimental use is being continued. It is too soon yet to assess the utility of this remedy.

SECTION VI.

VENEREAL DISEASES.

Rapid progress has been made during the year in the construction of the new clinic in Black Street, and it is anticipated that this Centre will be opened for patients in the early autumn of 1927. This provision is urgently required, as the premises at Broomielaw and Bellahouston Dispensaries are quite inadequate for the number of patients now attending. The closing of the Centre at the Royal Infirmary has not had any serious effect on the number of male out-patients seeking treatment, owing to the enthusiastic way in which the staffs of the Broomielaw and Bellahouston Dispensaries have faced the increased work.

The number of male patients treated in the ward at Belvidere Hospital during the year compares unfavourably with the numbers so treated in previous years in the Royal Infirmary. This ward contains 22 beds, and at no time have all the beds been occupied. It is difficult to account for this, as the 15 beds in the venereal diseases ward of the Royal Infirmary were always taxed to the utmost extent, and it was felt that the provision made in Belvidere Hospital might prove inadequate. No visitors are allowed into the ward, as the hospital is one for the treatment of infectious diseases. This rule was deliberately applied to the venereal diseases ward in the interests of the patients, but further experience may show that some relaxation of this rule is necessary.

The Glasgow Burgh Insurance Committee, the Glasgow Branch of the British Social Hygiene Council, and the Corporation again co-operated in the Health Lectures inaugurated in 1925, and lectures on venereal diseases were given in various parts of the City. The response shown by the citizens to such lectures is encouraging, a healthy interest being displayed, while inquiries after the lectures show that the information given has been of practical use. Several other opportunities of addressing public-minded citizens on these diseases arose during the year, and were taken advantage of by medical members of the Public Health staff. It is felt by the clinical officers that the large number of patients who are found not to be suffering from venereal disease is an index of the increasing knowledge of the danger of exposure to possible infection.

During the year, 42 practitioners were supplied with free issues of Salvarsan substitutes. Year after year the same practitioners make application under this branch of the Venereal Diseases Scheme, and these may be regarded as the practitioners who treat venereal diseases in private, the others preferring to send their cases to specialists or to the public clinics. The number of doses issued to individual practitioners ranged from 2 to 133, the total number of doses issued being 1,163.

WORK OF THE CENTRES.

The total number of new cases treated at the various Centres, including those of the Child Welfare Department, was 5,374, as compared with 5,187—an increase of 187. The number of cases which proved not to be venereal disease was 884, as against 637 in 1925, an increase of 247, so that the number of venereal disease cases treated in 1926 was 60 fewer than in 1925. There was a decrease of 90 cases of syphilis unassociated with other venereal disease, while the number of cases of gonorrhœa had increased by 261 compared with 1925.

This alteration in the incidence of syphilis and gonorrhœa cases treated at the various Centres is encouraging. The drop in the number of syphilis cases is in common with the experience of the other venereal diseases Centres throughout the kingdom; and the increase in the number of gonorrhœa cases strengthens the belief that sufferers are taking more advantage of the facilities provided than formerly. This, along with the increase in the number of cases found not to be suffering from venereal disease, would indicate that the increased propaganda for the dissemination of knowledge on the serious effects of venereal diseases is proving useful.

It will be seen that the number of cases treated at Broomielaw Dispensary is more than double that of the previous year; and that the total number of attendances made by patients at this Centre is more than half that of all the Centres in the City.

The average number of days' residence for in-patients was over 60; while the average attendance per out-patient was 32·8. Both these figures show a decided increase over previous years.

The following is a summary of the returns made by each Centre during the year. The work performed at the Child Welfare Centres is shown separately, for comparison with 1925:—

	Patients treated at the several				
	Belvidere Hospital	Western Infirmary		Victoria Infirmary	
In-Patients—					
New cases suffering from—	M.	M.	F.	M.	F.
Syphilis, ...	21	8	1	6	1
Gonorrhœa, ...	48	1	—	—	—
Soft Chancre, ...	4	—	—	—	—
Syphilis and Soft Chancre, ...	—	—	—	—	—
Syphilis and Gonorrhœa, ...	3	—	—	—	—
Gonorrhœa and Soft Chancre, ...	—	—	—	—	—
Balanitis, ...	5	—	—	—	—
Venereal Warts, ...	1	—	—	—	—
Stricture, ...	3	—	—	—	—
Conditions other than Venereal, ...	4	—	—	—	—
Total, ...	89	9	1	6	1
		10		7	
Aggregate Days' Residence, ...	4,107	275	77	156	24
		352		180	
Average Days' Residence, ...	46·1	35·2		25·7	
Out-Patients—					
New cases suffering from—					
Syphilis, ...	—	166	86	15	7
Gonorrhœa, ...	—	34	31	—	—
Soft Chancre, ...	—	6	1	—	—
Syphilis and Soft Chancre, ...	—	1	—	—	—
Syphilis and Gonorrhœa, ...	—	1	1	—	—
Gonorrhœa and Soft Chancre, ...	—	1	—	—	—
Balanitis, ...	—	—	—	—	—
Venereal Warts, ...	—	—	—	—	—
Stricture, ...	—	—	—	—	—
Conditions other than Venereal, ...	—	35	8	—	—
Total, ...	—	244	127	15	7
		371		22	
Aggregate Attendances, ...	—	5,141	4,787	271	329
		9,928		600	
Average Attendance, ...	—	26·8		27·3	
Pathological Examinations—					
Wassermann Reactions, ...	55	1,349		439	
Spirochætes, ...	1	—		—	
Gonococci, ...	17	141		52	
Totals, ...	73	1,490		491	

CENTRES DURING THE YEAR 1926.

Bellahouston Dispensary		Lock Hospital		Broomielaw Dispensary	Baird Street Reception House		Sick Children's Hospital		Eye Infirmary			Total
M.	F.	Ad.	Ch.	M.	M.	F.	M.	F.	M.	F.		
—	3	8	64	—	10	12	4	8	13	12	=	171
—	11	181	15	—	—	11	—	—	—	—	=	267
—	—	—	—	—	—	—	—	—	—	—	=	4
—	—	—	—	—	—	—	—	—	—	—	=	—
—	2	70	2	—	—	—	—	—	—	—	=	77
—	—	—	—	—	—	—	—	—	—	—	=	—
—	—	—	—	—	—	—	—	—	—	—	=	5
—	—	—	—	—	—	—	—	—	—	—	=	1
—	—	—	—	—	—	—	—	—	—	—	=	3
—	—	3	3	—	—	—	—	—	—	—	=	10
—	16	262	84	—	10	23	4	8	13	12	=	538
16		346			33		12		25			
—	573	16,823	6,254	—	231	1,946	176	278	1,079	719	=	32,718
573		23,077			2,177		454		1,798			
35·8		66·7		—	66·0		37·8		71·9			60·8
67	53	56	103	374	13	49	25	55	130	112	=	1,311
239	53	176	10	1,520	—	54	—	—	1	—	=	2,118
11	—	—	—	13	—	—	—	—	—	—	=	31
—	—	—	—	—	—	—	—	—	—	—	=	1
8	3	111	1	31	—	2	—	—	—	—	=	158
—	—	—	—	—	—	—	—	—	—	—	=	1
32	—	—	—	121	—	—	—	—	—	—	=	153
2	—	—	—	17	—	—	—	—	—	—	=	19
4	—	—	—	10	—	—	—	—	—	—	=	14
74	73	39	13	110	5	39	68	74	—	—	=	538
437	182	382	127	2,196	18	144	93	129	131	112	=	4,344
619		509			162		222		243			
9,499	5,473	13,020	1,202	83,338	136	2,174	546	1,070	2,991	2,348		
24,972		14,222			2,310		1,616		5,339		=	142,325
40·3		27·9		37·9	14·3		7·3		22·0		=	32·8
821		1,368		1,050	210		632		1,286		=	7,210
49		—		218	—		—		—		=	268
1,394		8,300		1,941	221		—		—		=	12,066
2,264		9,668		3,209	431		632		1,286		=	19,544

TREATMENT AT THE MATERNITY AND CHILD WELFARE CENTRES.

The provision for diagnosis and treatment of venereal disease at the Maternity and Child Welfare Centres, which was instituted at the end of 1924, has been still further increased, and during 1926 a weekly session has been held at five of the Centres. This session is held at the same time as the ante-natal clinic, and at two of the Centres—Partick and Maryhill—both clinics are carried on simultaneously by one medical officer. This is the ideal arrangement, but in most cases the size of each clinic is such that two medical officers are necessary. This provision of treatment has definitely established itself as an integral part of the scheme for the treatment of venereal disease in Glasgow.

The following is a table of the number of cases treated at each Centre during 1926:—

Work Performed at Child Welfare Centres.

	Sister Street, East		Cowcaddens		Adelphi Street, S.S.		Maxwell St., Partick		Maryhill				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	Total
Out-Patients—													
New Cases suffering from Syphilis,	6	37	5	23	5	19	3	9	—	15	19	103	122
Gonorrhœa,	—	4	—	5	—	8	—	11	—	4	—	32	32
Syphilis and Gonorrhœa,	—	—	—	—	—	2	—	—	—	—	—	2	2
Conditions other than Venereal,	9	82	9	94	—	54	4	55	—	29	22	314	336
Total, ...	15	123	14	122	5	83	7	75	—	48	41	451	492
	138		136		88		82		48				
Aggregate Attendances,	74	596	67	632	37	367	35	233	—	157	213	1,985	2,198
	670		699		404		268		157				
Average Attendance,	5·5		5·1		4·6		3·2		3·2		—		4·5
Pathological Examinations—													
Wassermann Reactions,	165		175		87		67		49		—		543
Gonococci,	22		36		44		29		8		—		139
Total, ...	187		211		131		96		57		—		682

From these figures it will be seen that a total number of 122 cases of syphilis, 32 cases of gonorrhœa, and 2 cases of infection with both syphilis and gonorrhœa have been diagnosed. Of the 122 cases of syphilis, 39 are cases of congenital syphilis, 2 are cases of cardiovascular syphilis, and the remaining 81 are cases of latent syphilis, the presence of the infection being suspected either from the obstetric history or from the fact that the child of the patient showed signs of congenital syphilis. The diagnosis of syphilis in the pregnant woman is not always easy, and the subject of conceptional syphilis requires further elucidation. In only a very few instances can one elicit any history of primary or secondary symptoms, and in most cases the patient is quite unaware that she is infected with venereal disease.

In no branch of medicine does treatment afford so much satisfaction alike to the patient and to the practitioner as does the treatment of the infected pregnant woman. A point of the utmost importance, however, is that the existence of the infection should be diagnosed at an early stage of pregnancy. During 1926 the history of such cases of infection is highly instructive. Eleven of the patients were seen sufficiently early, and received adequate anti-specific treatment, with the result that all the children were born free of infection. On the other hand, in nine cases where the diagnosis came too late or treatment was refused, the pregnancy resulted in still birth (six), abortion (two), and infected child (one). The children of the patients who received adequate ante-natal treatment during 1925 have been followed up, and all still remain free from any clinical signs of congenital syphilis, and the Wassermann reaction is negative.

All cases of gonorrhœa were rendered non-infective before the termination of pregnancy, and no case of ophthalmia neonatorum occurred.

The success of the scheme has been very materially assisted by the enthusiastic co-operation of the almoner nurse. Without her services the extent of the work done would have been very much less, and no scheme for the treatment of venereal disease is complete without such an appointment.

RESULTS OF TREATMENT.

The following figures taken from the returns for the year ended 31st May, 1926, show that a considerable percentage of patients ceased to attend before completing treatment. 1,965

	Syphilis		Gonorrhœa		Soft Chancre		Mixed Infections		Conditions other than Venereal		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total Number of Persons under treatment—												
From 1925, ...	1,360	1,107	631	124	23	—	76	222	1	—	2,091	1,453
During 1926, ...	913	738	1,851	519	78	1	48	164	422	444	3,312	1,866
Total, ...	2,273	1,845	2,482	643	101	1	124	386	423	444	5,403	3,319
Percentage of above who ceased to attend—												
(*a*) Before completing course of treatment for	28·7	13·1	37·1	8·2	10·9	—	17·7	16·8	—	—	*32·2	*12·5
(*b*) After completing a course of treatment but before final tests as to cure of ...	10·8	16·3	7·8	5·9	9.9	—	8·1	12·7	—	—	9·2	13·5
Percentage of above transferred to other centres after treatment for	11·1	3·1	7·4	2·6	4·0	—	9·7	1·3	—	—	9·1	2·8
Percentage of above discharged from the centre after completion of treatment and observation for ...	4·3	6·4	31·3	52·9	67·3	—	29·0	31·1	—	—	19·8	20·1
Percentage of above who, at the end of the year, were under treatment or observation for	45·4	61·0	16·5	30·3	7·9	100·0	35·5	38·1	—	—	30·0	51·1

* The percentages are calculated on total cases *less non venereal cases.*

patients ceased attending before completing a course of treatment, as compared with 1,751 similar cases in 1925. The number of cases ceasing to attend after completing a course of treatment, but before final tests as to cure had been made, was 847, as compared with 1,348 last year.

Cases of gonorrhœa and syphilis ceasing to attend before completing a course of treatment were equal in number, but the number of syphilis cases ceasing to attend after completing a course of treatment was 547, compared with 231 cases of gonorrhœa.

AGE-DISTRIBUTION.

The following table shows the age-distribution of cases treated during the year ended 31st May, 1926. The cases are those coming for treatment for the first time during the year under review, and cases found not to be suffering from venereal diseases are excluded.

413 children under fifteen years of age were treated for venereal diseases for the first time during the year, 330 of these being females and 83 males. This disparity in the sex incidence of venereal diseases in young children has been apparent since the scheme came into operation.

493 cases of congenital syphilis received treatment during the year ended 31st May, while only two cases of syphilis showed evidence of extra genital infection.

AGE DISTRIBUTION.

	Syphilis		Gonorrhœa		Soft Chancre		Mixed Infections		Total	
	M	F	M	F	M	F	M	F	M	F
Under 1 year, ...	36	138	—	3	—	—	—	—	36	141
1 year and under 5 years,...	11	50	1	14	—	—	—	2	12	66
5 years ,, 15 ,, ...	35	92	—	26	—	—	—	5	35	123
15 ,, ,, 25 , ...	190	109	615	259	29	1	15	61	849	430
25 ,, and upwards, ...	641	349	1,235	217	49	—	33	96	1,958	662
Totals, ...	913	738	1,851	519	78	1	48	164	2,890	1,422

WORK OF VISITING NURSE.

The report for last year contained an account of the nurse's work for the first five months of 1926, and the following report is for the last seven months of the year:—

During the past seven months the Nurse Visitor paid 336 visits to 210 patients who had ceased attendance at the various female Centres throughout the City.

Of the 210 patients, 16 were not found at the addresses given; 1 was found to be in bed suffering from another complaint, and too ill to resume attendance at the clinic; 3 were found to be in hospital; and 2 refused to resume attendance—leaving a total of 188 patients who were found and could resume attendance. Of these patients, 87 are now attending regularly, and 101 have failed to resume attendance. Of the 101 patients who failed to resume attendance, 62 were suffering from latent syphilis; 11 were suffering from syphilis in the frankly infectious stages; and 28 were suffering from gonorrhœa. Of these 28 cases, only 8 had received any treatment.

The nurse has experienced very little difficulty in the visiting of these cases, the majority of whom are mothers who attend the Child Welfare Centres, and they appear to appreciate the visit of a nurse.

Of all the cases visited, only two refused outright to attend the clinics, these being mothers with young babies suffering from syphilis. All the other patients promised to attend, yet 101 failed to do so. Repeated visits have been paid to these, and in one or two cases the doctor has also visited them.

Some of these defaulters state that they cannot afford the car fares; and others state that they cannot attend the clinics as they have no respectable clothes.

Of the 16 patients not found, most were old-standing cases, who had removed from the addresses given, and their whereabouts were unknown to the neighbours. In five cases the patient's name was not known at the address given, and it would appear that the name and address had both been false.

The chief cause of defaulting is indifference. The patients themselves feel quite well, and suffer no discomfort, and they see no good reason for continuing attendance. Others attend regularly for a considerable time, then suddenly lapse for no apparent reason. There are also cases of mothers who attend fairly regularly for treatment, on the understanding that their husbands will also attend a Centre, but when they find out that the husbands are not attending they themselves cease to attend, giving the reason that it would be useless for them to attend for cure if their husbands refused to do the same.

About 50 per cent. of the cases visited attended at Bellahouston Dispensary, and the majority of the others at the Centres in connection with the Child Welfare Department. The Royal Maternity Hospital asked that three cases be visited; two of these resumed attendance for a short time, then lapsed again. During recent months the requests for visits in connection with patients attending the Western Infirmary have been very few.

The Nurse Visitor has kept in touch with the Salvation Army Homes, the Magdalene Mission, and the Church of Scotland Homes in connection with the assistance that these institutions can give in special cases.

VENEREAL DISEASES CONTROL.

The Public Health Department is constantly confronted with problems in connection with the control of sufferers from venereal diseases, and in order to focus attention on the subject the following report was submitted to the Sub-Committee on Treatment of Venereal Diseases:—

The Sub-Committee on Venereal Diseases has, from time to time, considered what measures might usefully be taken to make the administration of the Venereal Diseases Scheme more effective, and how legislation for this purpose could best be promoted. Meetings have been held with representatives of other Local Authorities in Scotland and with the Scottish Committee of the National Council for Combating Venereal Diseases (now the Social Hygiene Council), and, following thereon, resolutions have been forwarded to the Scottish Board of Health urging that power should be conferred on Local Authorities to enforce a system of notification of these diseases, accompanied by measures for their better control.

So far the matter has ended there, and the time is opportune to reconsider the whole question, because of the impasse that has apparently been reached. This report has been prepared to enable the sub-committee to review the problem afresh, and to consider what further action might now appropriately be taken.

Previous Conferences and Resolutions.

A conference of the Local Authorities of Scotland was held in Glasgow on 8th March, 1923, when, after full discussion, the following resolutions were adopted:—

Resolution 1.—That, in the opinion of this conference, the present law and machinery are inadequate to secure the proper control and treatment of venereal diseases.

Resolution 2.—That, in order to secure adequate control of venereal diseases (both acquired and congenital), it is essential that a system of notification should be introduced.

Resolution 3.—That it is essential that every person suffering from venereal disease should be required by law to place himself or herself under treatment by a qualified medical practitioner, and to continue under such treatment until pronounced free of infection.

Resolution 4.—This conference resolves that a deputation be appointed to submit the foregoing resolutions to the Scottish Board of Health, and to urge upon the Board the desirability of their taking such steps as may be necessary to have same carried into effect with the least possible delay.

On 20th March, 1924, the Corporation of Glasgow approved of a motion by Councillor Allan that "intimation be sent to the Scottish Board of Health that, in the opinion of the Corporation, full benefit

is not derived from the expenditure on the treatment of venereal diseases under the existing conditions, and that the time has arrived for the introduction of a system of compulsory notification."

At the instance of the Corporation of Glasgow, the Scottish Board of Health convened a meeting on 23rd May, 1924, when representatives of the Corporation of Glasgow and the Scottish Committee of the N.C.C.V.D. discussed these resolutions with members of the Board.

On 22nd September, 1924, the Scottish Board of Health wrote to the Town-Clerk that, "in view of the desirability of uniform action throughout Great Britain, they are arranging to discuss with the Ministry of Health the whole question of the adequacy of the powers of Local Authorities under existing legislation for the treatment and control of venereal diseases. A further letter on the subject will be sent to you in due course." (This further letter has not yet been received.)

The Sub-Committee on the Treatment of Venereal Diseases, after consideration of this letter, recommended that, in the meantime, the Corporation approach the Public Health Authorities of the Counties of Lanark, Renfrew, and Dunbarton, with a view to making provision during an experimental period for the compulsory notification of venereal diseases in those areas. This meeting, which was also attended by representatives of the burghs within the above counties, was held on 4th March, 1925, and, after a full discussion, the motion to give effect to the proposal before the meeting was disapproved in favour of the following amendment, viz. :—

> "That this meeting of representatives of the Local Authorities of the Counties of Lanark, Renfrew, and Dunbarton, and the burghs therein, being of opinion that the present public expenditure on the treatment of venereal disease is greatly out of proportion to the advantages derived therefrom, and that some further action for the purpose of controlling the spread of these diseases is requisite, resolves that the Scottish Board of Health be asked to make additional regulations under Section 78 of the Public Health (Scotland) Act, 1897, with a view to securing the effective treatment of all persons affected with venereal diseases, and for preventing the spread of the diseases."

The Scottish Board of Health have had this resolution under consideration since then, and have not so far intimated what action, if any, they propose to take.

The City of Bradford has incorporated in the Bradford Corporation Act, 1925, the following section :—

> "68. (1) In the following cases venereal disease shall be deemed to be an infectious disease to which the Infectious Disease (Notification) Act, 1889, applies (that is to say)—
>
> "(*a*) Any infant under two years of age suffering from any such disease.

"(*b*) Any person (not being a child) suffering from any such disease who after being informed by any medical practitioner attending on or called in to visit him or by the medical officer that further treatment is necessary in order to effect a cure of such disease refuses or neglects to undergo such further treatment, provided that, notwithstanding anything contained in the said Act, it shall not be the right or duty of any person other than a medical practitioner to give notice to the Medical Officer of any case of venereal disease.

"*N.B.*—For the purposes of this Act, the expression 'Venereal Disease' means—syphilis, gonorrhœa, or soft chancre."

The City of Edinburgh is at the moment considering the question of including in its next Provisional Order sections relating to the notification of venereal diseases; while recently the River Tees Port Sanitary Authority resolved that the time is now opportune to make venereal diseases a notifiable disease throughout the country, and that representations to this effect be made to the Ministry of Health and local Members of Parliament.

Defects of Existing Scheme.

In many quarters the exercise of any power of compulsion towards those affected with venereal diseases is viewed askance. Perhaps the principal reason for this is the difficulty of framing enactments or regulations which will give powers specific enough to ensure some degree of control, without being so drastic as to imperil the confidence of the public in a scheme which must remain essentially voluntary in character. It will be desirable, therefore, to re-state, as clearly as possible, with the aid of concrete instances, what are the main defects in the operation of the existing scheme.

Ever since the Venereal Diseases Scheme came into operation, grave dissatisfaction has been expressed by the clinical officers in charge of the various Centres as regards their relationship to the patients, in particular towards those whose attendances cease as soon as the symptoms of the disease have been alleviated. The number who cease attendance prematurely is invariably over a quarter of the total. Every Centre treating these diseases can furnish numerous examples where it would seem essential that power is required to ensure completion of treatment.

The question of control of defaulters has been reported upon from year to year, and the sub-committee recently approved of the appointment of a special nurse to visit defaulters among women and children in their homes. The following account of her work over a period of six months is instructive :—

Of 147 defaulting patients with whom the nurse gained contact, only 64 resumed regular attendance; 54 attended once or twice, and then defaulted again; 24 failed to attend after promising to do so; and 5 absolutely refused to attend any clinic.

An analysis of these 83 defaulting cases shows that 58 are mothers who are themselves suffering from latent syphilis, and who have borne syphilitic children. The importance of the early and continued treatment of these children cannot be over-emphasised, and it is essential that the mother undergo treatment during any subsequent pregnancy. Further, active communicable syphilis was found in 9 of the 83 cases. The remaining 16 cases were suffering from gonorrhœa, and, although a few had received some treatment, all were still infective.

The following illustrative cases reveal some of the weaknesses of the present voluntary scheme :—

(1) This is a young lad who has permanently lost the sight of an eye, owing to conveyance of infection on his towel which had been used by a fellow-worker, who was suffering from gonorrhœa, and who had been under treatment at one of the Centres, but had failed to take proper precautions against spreading the disease.

(2) This is a man who recently appeared for the treatment of what he called his fourteenth attack of gonorrhœa. This may not be an actual fact, but there is no doubt that he had exposed himself indiscriminately to infection, and believed that he had had fourteen distinct attacks of the disease, thus knowingly exposing himself to infection.

(3) This is a man who recently returned to his wife after deserting her. He has now infected her with gonorrhœa, and she, in turn, has innocently infected her young daughter. While the mother and daughter are undergoing treatment, the man absolutely refuses to attend anywhere for treatment.

(4) This man, while recently suffering from gonorrhœa, infected two girls, each of whom gave birth to a child. Both children contracted gonorrhœal ophthalmia, and one child has permanently lost the sight of an eye. The man made one attendance at a Centre under veiled threats of prosecution, but has failed to return.

(5) This is a girl of eighteen years, whose baby developed gonorrhœal ophthalmia. She attended once at the Centre, but has refused to return for further treatment.

(6) This is a married woman, who attended once at a Centre with her child, who was also infected with syphilis. The mother is willing to return to the Centre, but her husband refuses to let her bring the baby for treatment.

(7) This is a girl who is suffering from syphilis. She is mentally defective, and refuses to undergo any treatment.

Scope of Possible Legislation.

Any form of legislation must safeguard the interests of those innocently infected with venereal disease, and, at the same time, ensure that all infected persons receive adequate treatment. It is very doubtful whether notification by itself would enable this purpose to be

attained, unless there were superadded provisions designed to ensure that an individual patient underwent a recognised form of treatment by a registered medical practitioner. From the practical standpoint, notification might be restricted to those patients who cease treatment before they are cured. It is suggested, therefore, that administrative provisions should be so drafted as to secure (*a*) adequate treatment of the infected persons, and (*b*) notification by name in the event of default.

Consideration has been given to the scope of the compulsory powers with which a Local Authority might be endowed, and the following are put forward as suggestions to which effect might be given in the framing of appropriate clauses :—

(1) Clause defining venereal disease.

(2) Clause making it compulsory for a medical practitioner to inform any infected person, or the parents of any child found to be infected with venereal disease, of the nature of the disease, and of their obligations as regards treatment as after provided, and of the precautions to be observed by them. (A safeguard should be introduced where the conveyance of this information was undesirable for some definite reason, provided no other person would suffer thereby.)

(3) Clause providing that the parents of children infected with congenital syphilis or with ophthalmia neonatorum of gonorrhœal origin shall be deemed to be infected persons, who must submit themselves for examination by a registered medical practitioner.

(4) Clause placing the onus on an infected person of submitting to treatment by a registered medical practitioner, and on parents or persons having charge of children affected with a venereal disease. (A penalty should be placed on any person wilfully or negligently failing to observe this provision.)

(5) Clause ensuring the continuance of treatment by a registered medical practitioner until patient is informed by him that further treatment is no longer necessary. (Under this clause there might need to be provision for appeal by an aggrieved person to some constituted body.)

(6) Clause providing for the notification by the registered medical practitioner by name and address of any person who fails to submit to treatment, or to remain under treatment. (A penalty should be placed on any person wilfully or negligently failing to submit to, or remain under treatment, and such penalty should provide for removal to hospital for approved treatment, if this step be deemed necessary.)

(7) Clause safeguarding the disclosure of identity without the written consent of a patient, except for purposes of notification as above.

Alternative Methods of Legislation.

(1) Under the Infectious Disease (Notification) Act, 1889, a Local Authority is empowered to add to the list of notifiable diseases. In this case the provisions of the Public Health (Scotland) Act would then apply. There are two objections to this course. The Public Health

Act is general in its provisions, and not specific enough to cover the special problem of venereal diseases. It would also entail notification of every case by name and address, a procedure which is antagonistic to the spirit of the Venereal Diseases Scheme, and which would probably arouse great opposition.

(2) Under Section 78 of the Public Health (Scotland) Act, 1897, the Scottish Board of Health are empowered to make regulations for the control of any infectious disease. This is the method which has so far commended itself to the Local Authorities who took part in the discussions in March, 1925, and to the British Social Hygiene Council. This procedure has the merit of simplicity, and would ensure uniformity in administrative methods in those areas prepared to adopt the regulations. It has been pointed out previously, however, that the Scottish Board of Health have so far taken no action.

(3) Another method open to consideration would be procedure by way of a Private Bill for Scotland. There would be obvious difficulties and delays inseparable from this course.

(4) The Corporation might agree to proceed by Provisional Order and promote their own Bill. This may have to be the ultimate course, but it should be considered whether the other larger Local Authorities in Scotland would join in taking common action.

I think that, first of all, another representative meeting should be convened, in order to consider whether a joint course of action could now be agreed upon, especially as opinion appears to be tending more and more in favour of a further administrative step being taken in the control of venereal disease.

A. S. M. MACGREGOR.

11th January, 1927.

SECTION VII.

HOSPITALS.

In dealing with the prevalence of infectious disease in Section IV, it has been mentioned that on several occasions during the year difficulty was experienced in meeting the demand for hospital accommodation. This is especially the case during epidemics of measles and whooping-cough, or when acute respiratory diseases occur. For the past three years it has been necessary to evacuate a ward at Knightswood, occupied by male phthisis patients, and on more than one occasion to evacuate two wards at Robroyston.

Before the war a reasonable standard of the number of beds required for the treatment of infectious diseases was 1 per 1,000 of the population, but with the inclusion of the considerable number of diseases since made notifiable, and the increasing numbers of cases of measles and whooping-cough treated in hospital, the standard of 1·5 per 1,000 is now being regarded as necessary, at least for large industrial areas.

The hospital bed accommodation for infectious diseases is shown in the first part of Appendix Table XX, while in the second portion of the table the number of beds available in Corporation institutions and sanatoria, and the number of beds occupied by tuberculosis patients in the other hospitals and sanatoria for which payment is made, are shown as at 31st December, 1926. The fever beds represent a proportion of 1·3 per 1,000 of the population. The number of cases of the various infectious diseases admitted to hospital during the year is shown in Appendix Table XIV. Exclusive of tuberculosis, 12,465 cases were removed to hospital, apart from those occurring in the areas added to the City on 15th May.

In recent years cases admitted to hospital have averaged around one per cent. of the population, but in 1926, with the heavy prevalence of measles in the early part of the year, pneumonia in the spring of the year, and again in the early winter, and the continued rise in scarlet fever, the proportion was 1·13 per cent. The maximum demand occurred on 10th December,

when 1,921 patients were under treatment in the hospitals. On that date over 26 per cent. of the bed accommodation was occupied by cases of pneumonia and influenza. A report on the situation which is being created by these demands is being prepared.

Belvidere Hospital.—The house for the Physician-Superintendent was completed and occupied during the year. One of the wards in the western section of the hospital was altered and occupied by patients suffering from venereal diseases, which were formerly dealt with in the Royal Infirmary. Certain advantageous alterations to the enquiry room and office accommodation, the waiting room and admission block, and to the Avenue nurses' home, as also the provision of a new observation ward and staff recreation hall, have been approved.

Ruchill Hospital.—The Committee approved of the erection of a house for the Physician-Superintendent.

Shieldhall Hospital.—A ward which had been occupied by tuberculosis patients since 1913 was evacuated as unsuitable for treatment of such cases, and has been devoted to other purposes.

ANNUAL REPORTS OF THE HOSPITALS.

The Annual Reports submitted by the Physician-Superintendents of the hospitals and sanatoria form Part II of this report. In each case tables are appended, giving information as to the numbers admitted and dismissed, &c.

The use of scarlet fever serum has been continued in a larger number of cases. Reference is made to this in the Belvidere, Ruchill, and Knightswood reports.

EAR, THROAT, AND NOSE DISEASES.

In the report of last year information was given as to the prevalence of ear, throat, and nose diseases, especially in association with scarlet fever, measles, &c., and the following statement summarises visits made to the hospitals by the two specialists who

were then appointed. Further details will be found in the various hospital reports:—

RECORD OF ATTENDANCES AND OPERATIONS BY AURISTS AT CORPORATION HOSPITALS FOR THE YEAR 1926.

	Patients.						Staff		
	New Cases.		Old Cases.		Operations.		New Cases.	Old Cases.	Operations.
	-5	+5	-5	+5	-5	+5			
Belvidere, -	134	100	79	95	27	27	5	1	1
Shieldhall, -	42	29	81	41	10	7	1	1	—
Robroyston, -	11	14	—	—	3	10	2	—	1
Ruchill, -	181	111	132	97	37	36	20	29	8
Knightswood,	32	52	9	3	3	1	1	—	—
Total, .	400	306	301	236	80	81	29	31	10

RECEPTION HOUSES.

The accommodation at Baird Street Reception House was utilised wholly during the year for the treatment of cases of ophthalmia neonatorum and artificial light therapy of tuberculosis. The former is dealt with in Section III of report, and the latter under "Tuberculosis."

The rear annexe of South York Street Reception House was utilised throughout the year for the isolation of young children prior to admission to the various country homes. Cases of scabies to the number of 16, and 153 verminous persons, most of whom are newsboys, or boys who are being sent under some emigration scheme to the colonies, were also treated.

CONTACTS, &c., ADMITTED TO RECEPTION HOUSE.

South York Street	1925	1926		
	Total	Adults	Children	Total.
Smallpox Contacts, ...	—	—	—	—
Typhus Fever ,, ...	8	19	14	33
Enteric ,, ,, ...	4	2	15	17
Scarlet ,, ,, ...	7	—	6	6
Diphtheria, ,, ...	1	—	—	—
Whooping-Cough ,, ...	4	—	3	3
Measles ,, ...	1	—	1	1
Mumps, ...	7	—	1	1
Impetigo, ...	17	—	16	16
Verminous Persons treated,	195	119	34	153
Scabies.	16	4	12	16
For Observation before admission to Country Homes, ...	166	—	181	181
Total, ...	426	144	283	427

DISINFECTING STATIONS.

The following tables summarises the washings and disinfections carried out at Ruchill and Belvidere Disinfecting Stations during the year 1926:—

		Belvidere	Ruchill	Total
Number of washings,	... ...	8,213	7,779	15,992
Average number per day,	... ...	26·6	25·4	52·0
Articles washed and disinfected,	...	282,155	337,883	620,038
Average number of articles per washing,		34·4	43·4	38·8
Fuel consumed,	... ...	tons 642	743	1,385
Fuel used per article,	... ...	lbs. 5·10	4·93	5·00
Soap and powder used per article,	...	ozs. ·32	·29	·31
Disinfectant do.	...	ozs. ·38	·44	·42

NUMBER OF WASHINGS, ARTICLES DISINFECTED, &C., FOR YEARS 1921-26 INCLUSIVE.

		Washings	Articles	Sprayings	Whitewashings
1921.	...	18,060	655,867	19,196	21
1922,	...	14,837	533,450	9,418	21
1923,	...	14.423	526,285	8,008	2
1924,	...	14,690	510,275	8,405	3
1925,	...	14,408	530,777	8,473	2
1926,	...	15,992	620,038	9,806	—

Books Disinfected, 1,873

SECTION VIII.

OFFENSIVE TRADES.

During the year 1926 only one application was received for the establishment in new premises of an offensive trade.

Horse Slaughterers and Knackers.—Licences, as required by statute for the carrying on of the businesses of horse slaughterers and knackers, were granted anew in respect of two establishments in the Northern District of the City.

Soap Boiler.—In April an application was received for the transfer of the business of soapboiler from Port Eglinton to Pollokshaws. The building at the new site stands free, with business premises in the vicinity, the nearest dwelling-house being more than 100 yards distant. These premises were unoccupied, and consisted of a single-storey erection of brick, 80 feet by 30 feet, with roof lights. Ventilation is effected by two roof ventilators and two opening roof lights.

The plant consists of two pans of 100 gallons capacity, capable of dealing with 8 cwts. at a time, and a boiler for steam production, to be connected to the existing flue in the wall of the building. The tallow is boiled for about two hours, while alkali and palm oil is added during the process. Thereafter the mixture is run into moulds, cooled, and cut in bars. There is no residue.

As the floor was laid with bricks and rather uneven in places, the applicant was granted licence on undertaking to lay half of it with cement where the process was to be carried on.

* * * * * * * *

In April, and again in May, complaints were made by a firm of bread bakers in the Eastern district of smells from a tallow work 18 yards distant. Frequent inspections were made, and faint smells of boiling fat detected on 27th, 28th, and 29th April, and again on 4th and 12th May. Strong smells were reported on 14th and 15th May, when it was found that a wagon-load of raw bones was lying in a near-by railway siding, removal of which had been delayed owing to the strike. An undertaking was given to have the bones sprayed with disinfectant when removal of residues was delayed. Some minor defects found near the premises were also removed, while the firm undertook to install an electric fan to draw vapours through a water spray into a condenser and to pass insoluble fumes through the furnace.

On May 27 complaint was made by a firm in Calton district regarding smells from boneboilers' premises in the vicinity. There is a distance of 18 feet between the buildings, which are parallel and entered from different streets. The nuisance was found to be due to alterations being carried out, and the complaint ceased on their completion.

SECTION IX.

GLASGOW PORT LOCAL AUTHORITY.

When the Glasgow Port Local Authority was inaugurated in October, 1903, the Boarding Station at Prince's Pier, Greenock, was staffed by two medical officers and two boarding inspectors. During the war this staff was reduced to one officer and one inspector, who, although nominally on duty from 8 a.m. to 6 p.m. each day, return to the Boarding Station at other times when it is known that vessels from "infected ports" are expected to arrive or when information is received that illness of a suspicious nature is present on board.

In the interval various considerations have arisen with reference to the relationship of the pilots, Customs officers, and sanitary officials to one another, and the whole problem of boarding vessels was studied afresh. In order to obtain detailed information of the practice elsewhere, the Port Local Authority appointed a deputation to visit various ports in England. Based on the survey made by the deputation, the following report and recommendations were made to the Port Local Authority:—

MEMORANDUM BY MEDICAL OFFICER ON BOARDING ARRANGEMENTS.

10th January, 1927.

The following report is based on the information obtained by the deputation as to the methods adopted at various ports in England, and on consideration of the particular circumstances obtaining at the Port of Glasgow.

As between one port and another, the practice actually adopted as regards incoming vessels appears to depend on the administrative views held by those responsible and on the configuration of the particular estuary. The features of the Port of London are more nearly akin to those of Glasgow than are those of any other of the ports visited, and its port administration may be regarded as the most ideal in the country. The practice at Liverpool differs materially from that at London, owing to the dependence placed on information obtained by wireless, and by the pilots *via* Formby Light, which is situated ten miles from the harbour.

The policy generally pursued in this country is to divide arriving vessels into two broad categories—(1) those from infected ports or with sickness on board; and (2) those from non-infected ports. There is also a convenient third group, including vessels from foreign ports

arriving coastwise, which have already been boarded at another British port. The information which enables this classification to be made is obtained from the "Weekly Report of Infectious Diseases at Ports," published by the Ministry of Health from information received in London from various sources. This information is not altogether complete, and may be belated, and arrangements to make it more reliable and prompt have been under discussion at a recent International Sanitary Conference in Paris (referred to in a recent report to the Port Local Authority). In this connection there may be noted the view of Dr. Willoughby, of the Port of London, that he regards all vessels from Eastern countries as coming from "infected" or at any rate "suspected" areas.

It is generally agreed that vessels from non-infected ports, or with no sickness on board, may, after these facts have been ascertained, be allowed to proceed to dock, where they would be visited in due course by a Sanitary Inspector, and, if need be, by a Medical Officer, though this is rarely necessary. As regards vessels from infected ports or with sickness on board, the usual practice is for those to be boarded by a Medical Officer. This may be done either at the boarding station or at the dock side.

The information necessary to enable a vessel to be classified as above before it reaches the dock side is obtained in various ways—from pilots or Customs officers (Liverpool, Hull, and Southampton), or by the boarding staff of the Port Local Authority (London, Cardiff). Where reliance is placed on information from pilots or Customs officers, it would appear that the configuration of the estuary, distance of the pilot boarding station from the port boarding station, and facilities for transmission of information have something to do with this arrangement as well as general convenience. It is essential that this information should be readily transferable to the boarding station of the Port Local Authority before a ship arrives there.

It must be accepted as a general principle that ships arriving from ports or countries known or suspected to be infected, or with sickness on board, or for any special reason, should be capable of being boarded before proceeding to dock, and the arrangements made for boarding vessels at any port of consequence should be such that this procedure is possible, if the configuration of the port permits. From whatever source the information as to the details of a ship's voyage comes, or as to the presence of sickness on board, it must be possible for this knowledge to be acted upon and the vessel boarded before proceeding to dock, and that with the minimum of interference with shipping movements.

Applying these considerations to the Port of Glasgow, there are two principles which must be kept in mind—

(1) The point at which vessels should be boarded must be such that a vessel from abroad can proceed, if need be, to a quarantine station. Although this is undoubtedly a remote contingency, and one which it should be the aim of sound administration to avoid, it is nevertheless a possible one, and must still be regarded as a cardinal factor in the

conduct of a port. It would not be possible to give effect to this after a ship had left the Tail of the Bank. Any question, therefore, of relinquishing the boarding station there in favour of boarding on arrival at Glasgow would cut through the cardinal principles of the work of a Port Local Authority, and would, I am certain, considerably embarrass shipping, and interfere with the administration of the Aliens Act.

(2) Information as to which of the above categories a ship belongs can at present only be ascertained by visiting every ship as it arrives in the Firth. There is very little advance information by wireless.

The Customs officers who visit ships at Greenock perform certain statutory duties under the Plague and Cholera Orders. A ship from an infected port cannot proceed until it has been given pratique. They have, however, no duties in regard to smallpox, which is the most important disease of any from the point of view of watchfulness as far as the Port of Glasgow is concerned. The health functions which the Customs officers perform are, therefore, partial and incomplete, and require to be supplemented by the officials of the Port Local Authority in this and other particulars. The function of a Port Local Authority is wider than that of the Customs.

It was chiefly because of these duties of the Customs officers that both bodies were given similar areas of jurisdiction.

The constitution of the Port Local Authority is laid down in the Order of the Local Government Board for Scotland constituting the Local Authority of the Burgh of Glasgow, in terms of the Public Health (Scotland) Act, 1897, the Port Local Authority of the Burgh of Glasgow. Article III is as follows :—

The jurisdiction of the said Port Local Authority shall, subject to the exceptions hereinafter in this article mentioned, extend to the whole of the said Port of Glasgow as defined by the Treasury Warrant, dated 19th April, 1859, and to the place or places for the time being appointed as the Customs Boarding Station or Stations for the said port, and the place for the time being appointed for the mooring or anchoring of ships for the said port under any regulation for the prevention of the spread of diseases under Part 4 of the Public Health (Scotland) Act, 1897, and to all waters, harbours, and strands belonging to the said port, &c.

The duties of a Port Local Authority are laid down in the Public Health (Scotland) Act, 1897, and in the Public Health Port Administration (Infectious Diseases) Regulations (Scotland), 1921, made by the Scottish Board of Health.

For many years it has been the practice of the officials of the Customs and of the Port Local Authority to carry out their respective duties in close co-operation, using the same launch for boarding purposes, an arrangement which has worked extremely well and harmoniously.

Some years ago the Pilot Boarding Station was transferred from Greenock to Gourock, and the Customs Authorities had recently under consideration the feasibility of making a similar transference. I am informed by the Collector of Customs at Glasgow that the Collector at Greenock, after full inquiry into the position with Dr. Dittmar (Scottish Board of Health) and the Pilotage Authorities, reported that he was not in favour of transferring the Boarding Station to Gourock on grounds of safety, convenience, and expense. If this is the view of the Customs, there would be no object in the Port Local Authority considering removal to Gourock. In any case, there would be the same objections as those entertained by the Customs Authorities, and the question need not arise until such time as the Customs give up their health functions. The present co-operation between the two bodies should be maintained.

These questions of unification of the Boarding Stations of Pilotage, Customs, and Port Authorities have apparently emanated from the first named, and have been advanced in the interests of shipping so as to avoid any possible delay or danger to vessels. The boarding work at Greenock is carried out with the utmost expedition, and I am not aware of any authenticated instance of danger to shipping having arisen from the actions of the boarding officials. Had this been so, I am certain that shipping interests would have pointed it out long ago.

It is also stated that it would conserve the interests of shipping, and also be of some service to the Customs, if (apart from the transference of the Boarding Station to Gourock) an arrangement were made with the Pilot Board whereby the pilots would ascertain the facts as to a vessel's voyage, whether from an infected port or not, and with or without sickness on board. Vessels from non-infected ports, without sickness on board, or from foreign ports arriving coastwise, would then proceed direct to Glasgow without being boarded at Greenock, the pilots undertaking to forward the information to Glasgow, when these ships could be inspected there. Other vessels would be boarded as usual at Greenock.

I have given this suggestion careful consideration, and am of opinion that the responsibility for classifying vessels on arrival at the Tail of the Bank, and of ascertaining what conditions should be dealt with on their arrival in Glasgow, should be an undivided responsibility as long as this is practicable, as is the case in London and Cardiff. This duty should preferably be carried out by an officer accustomed to assess the incidents of a voyage from a preventive point of view, and able to report in a manner that would enable appropriate action to be taken when the vessel reaches dock.

It would, I think, be a necessary corollary to any departure from existing practice that arrangements be made to visit vessels allowed to pass under such a scheme immediately on arrival in Glasgow. This would mean a substantial increase in the inspectorial staff at Glasgow, while it would not permit of any reduction at Greenock.

Having regard to the nature of the shipping arriving at the port, particularly American and European, the value of accurate information is obvious, and, in my opinion, it should be obtained in the first

instance by officers of the Port Local Authority, particularly during pandemic prevalence of a serious infectious disease.

For these reasons, I think that the present practice should be continued, and that the reinforcement of the port officers by the two additional inspectors approved by the Port Local Authority should meet the necessities of the case. The information obtained at Greenock by the inspectors there as to the conditions on arriving vessels has been sufficient to enable me to determine whether a particular vessel should be boarded by a Medical Officer or not immediately on its arrival in Glasgow.

I propose to report later on the administration of the other branches of the work of this Authority.

A. S. M. MACGREGOR.

LETTER FROM TOWN-CLERK *RE* SEA TRAFFIC WITH IRISH FREE STATE.

City Chambers,
Glasgow, C.2, 12th November, 1926.

A. S. M. Macgregor, Esq., M.D.,
Medical Officer of Health.

Dear Sir,

Sea Traffic with Irish Free State.

I return the file of papers which you left with me. On the question of boarding vessels coming from Irish Free State ports, I think you are entitled to exercise the same right of boarding as in the case of vessels arriving from foreign ports. How far you may consider it necessary to exercise this right is a matter within your own discretion. With regard to the inspection of meat and food stuffs, the Public Health (Oversea Meat) Regulations (Scotland), 1925, would appear not to apply to meat coming from the Irish Free State, not being oversea meat within the meaning of those regulations. "Oversea" means brought from a place situate elsewhere than in the British Islands, while the British Islands are defined to mean Great Britain and Ireland and the Channel Islands and the Isle of Man. On the other hand, the Public Health (Unsound Food) Regulations (Scotland), 1925, apply to any article of food, whether oversea or not, which, as part of the cargo of a ship or aircraft, is brought to or delivered or landed at a place within Scotland. So far, however, as the inspection of oversea meat and any articles of food is concerned there is, I take it, no occasion to board a vessel for the purpose until it arrives in the harbour.

Yours truly,

J. L. MACKENZIE,
Town-Clerk Depute.

(*The Report by the Deputation is not reprinted.*)

Number of SHIPS ARRIVING from Foreign and Irish Free State Ports during the Year 1926.

Month.	From Infected Ports. (A) With Foreign Cargo.			(B) Light, or with Outward Cargo.			(C) From Non-Infected Ports, with or without Cargo.			Total from Foreign Ports.			Arrivals from Irish Free State.
	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	Ships.	Crews.	Pass.	
January,	25	1,577	...	23	1,507	...	108	4,096	296	156	7,180	296	47
February,	17	924	...	15	847	...	79	3,311	355	111	5,082	355	41
March,	31	1,811	...	24	1,511	...	98	3,741	445	153	7,063	445	43
April,	17	1,248	...	21	1,417	...	102	4,172	592	140	6,837	592	55
May,	13	1,199	1	8	690	...	69	4,087	1,960	90	5,976	1,961	16
June,	18	1 581	2	19	1,064	...	84	5,133	3,131	121	7,778	3,133	20
July,	15	1,106	...	15	973	...	92	5,166	3,385	122	7,245	3,385	32
August,	21	1,422	...	8	579	4	111	5,762	2,587	140	7,763	2,591	32
September,	13	987	...	12	877	...	119	6,584	1,318	144	8,448	1,318	36
October,	20	1,360	...	17	911	1	108	6,302	1,468	145	8,573	1,469	41
November,	21	1,239	...	13	764	...	93	3,816	1,002	127	5,819	1,002	32
December,	19	1,371	...	14	1,372	...	124	5,510	956	157	8,253	956	53
Totals,	230	15,825	3	189	12,512	5	1,187	57,680	17,495	1,606	86,017	17,503	448
1925,	243	17,340	...	219	14,764	...	1,273	59,833	16,311	1,735	91,937	16,311	724

BOARDING STATION, GREENOCK.

At the Boarding Station at Greenock vessels are boarded by means of a motor launch, which is hired on a yearly contract.

SUMMARY OF WORK DURING THE YEAR 1926.

1,606 vessels, trading to foreign ports and bound for the Port of Glasgow, passed the Boarding Station during the year. Of this number, 419 had come from or called at ports infected under the Cholera Order; 230 direct or with inward foreign cargo on board; and 189 light or with outward cargo on board. Of the total number, 872 were boarded on arrival at Greenock. There were also 448 vessels from the Irish Free State, and of these 273 were boarded at Greenock.

Tonnage.—The 1,606 ships arriving in the port in 1926 had a total tonnage of 4,712,234 tons, as compared with 1,735 ships and 4,656,742 tons during 1925, showing an increase of tonnage of 55,492 tons, but a decrease in the number of ships of 129 in 1926.

The following table shows the number and nationality of the overseas vessels which arrived at the Port of Glasgow during 1926, as compared with the years 1924 and 1925:—

Nationality	Number of Vessels			Number of Crews		
	1924	1925	1926	1924	1925	1926
American, ...	56	55	56	2,267	2,271	2,298
*Argentine, ...	—	—	1	—	—	—
Belgian, ...	2	—	3	29	—	108
British, ...	1,307	1,352	1,276	79,933	81,937	76,571
Danish, ...	19	27	31	295	506	651
Danziger, ...	—	1	1	—	19	14
Dutch, ...	14	9	23	244	164	798
Finnish, ...	1	1	2	24	22	47
French, ...	35	23	8	882	499	175
German, ...	52	37	26	1,091	523	461
Greek, ...	17	8	10	445	213	293
Italian, ...	7	10	11	228	278	358
Forward. ...	1,510	1,523	1,448	85,438	86,432	81,774

*Argentine ship had British crew which is therefore included in British.

Nationality	Number of Vessels			Number of Crews		
	1924	1925	1926	1924	1925	1926
Forward, ...	1,510	1,523	1,448	85,438	86,432	81,774
Japanese, ...	14	14	12	1,021	1,026	776
Jugo-Slavian. ...	4	—	8	114	—	257
Latvian	—	2	1	—	41	20
Norwegian, ...	133	115	83	2,576	2,300	1,706
Peruvian, ...	—	1	1	—	32	23
Russian, ...	—	—	3	—	—	100
Spanish, ...	110	69	40	2,693	1,895	1,168
Swedish, ...	10	11	10	179	211	193
Uruguayan, ...	1	—	—	46	—	—
Total. ...	1,782	1,735	1,606	92,067	91,937	86,017

Ships arriving from ports in the Irish Free State are dealt with in a subsequent table.

IRISH FREE STATE SHIPPING.

All vessels from the Irish Free State are boarded for the examination of foodstuffs, under the Unsound Food Regulations, and as there are twelve ships arriving weekly, carrying annually about 900,000 tons of foodstuffs, difficulty is sometimes experienced in overtaking the work, as the vessels usually depart on the day of arrival or on the following day.

The arrivals each month are given in the table on page 179. The total for the year was 448, of which 273 were boarded at Greenock, a decrease in ships of 276, chiefly due to the prolonged coal strike.

INFECTIOUS DISEASES.

The following table shows the number and nature of the cases of disease met with in the year 1926. The first column gives the total number of cases. Column 2 shows that 81 cases were dealt with at other ports during the voyage. Particulars of these are not always available, but, where necessary, disinfection was carried out on the arrival of the ship at Glasgow. The other columns show how the 165 cases found on arrival were dealt with. 62 cases were removed to hospital in Glasgow, and 103 cases were permitted to go home. Twelve deaths were recorded during the year.

TABLE SHOWING DISEASES AND NUMBER OF CASES DURING THE YEAR 1926.

Disease.	Total Number of Cases during Voyage.	Cases Dealt with in other Ports.	Cases Found on Arrival.	Cases Sent to Hospital.	Cases Sent Home.	Deaths
Plague, ...	1	1	—	—	—	—
Smallpox, ...	6	6	—	—	—	1
Enteric Fever, ...	12	5	7	6	1	1
Scarlet Fever, ...	7	4	3	3	—	—
Diphtheria, ...	9	2	7	7	—	—
Measles, ...	19	7	12	7	5	—
Whooping-Cough, ...	11	7	4	—	4	—
Chickenpox, ...	25	10	15	14	1	—
Phthisis, ...	23	8	15	3	12	2
Venereal, ...	8	3	5	3	2	—
Pneumonia, ...	30	10	20	8	12	4
Erysipelas, ...	3	—	3	1	2	—
Dysentery, ...	7	3	4	2	2	—
Malaria, ...	6	3	3	1	2	—
Influenza, ...	41	2	39	—	39	—
Scabies, ...	3	3	—	—	—	—
Simple Bubo, ...	1	1	—	—	—	—
Trachoma, ...	2	—	2	1	1	—
Other Illnesses, ...	32	6	26	6	20	4
	246	81	165	62	103	12
1925, ...	182	74	108	47	61	12

Phthisis.—Of the 15 cases found on arrival, 7 were members of crews and the remaining 8 were passengers. There was one death.

Enteric.—7 cases were found on arrival, 1 being a passenger. On one ship 4 cases were found. This ship arrived from Tampico with oil. All were removed to hospital. Samples of drinking water were taken, and submitted to the City Bacteriologist, but with negative results for B. typhosus.

Pneumonia.—Of the 20 cases found on arrival, 18 were members of crews—chiefly Asiatics.

Influenza.—39 cases were found, an increase of 36 compared with last year. An epidemic among passengers and crew occurred on board two passenger ships. This epidemic was mild in nature, and there were no deaths.

Chickenpox.—14 out of the 15 cases recorded were Lascars; 10 on one ship and 4 on another. The infection on one of the ships was due to transferring an infected crew to a non-infected ship.

Smallpox.—Although no cases were actually recorded arriving at the port, an incident is worthy of note. A passenger steamer, on arrival at the port, reported that one case of smallpox had been removed at a quarantine station in Canada. The patient was one of the crew, and 40 direct contacts were removed with him. The ship was on the outward journey when the case occurred; all crew and passengers were vaccinated. The 40 contacts returned with the ship. The ship arrived here within the period of incubation. All passengers and crew were examined and addresses taken, and all smallpox precautions were stringently enforced. The original patient resided in Glasgow, and on inquiries at his home cases of chickenpox were found, and in the district the disease was prevalent. The Canadian quarantine officer reported the case as smallpox, but there is no doubt that it was one of chickenpox.

Venereal Disease.—During the year 209 seamen attended the clinic. Of these, 140 suffered from gonorrhœa, 52 from syphilis, 5 from gonorrhœa and syphilis, 5 from balanitis, 2 from venereal warts, and 1 from chancre. The other 4 were free from V.D.

ALIENS ORDER.

During the year 1926, 72 alien-carrying passenger vessels arrived at the Port of Glasgow, being a decrease of 27 compared with 1925. Of the 72 ships, 38 were from New York, 31 from Montreal and Quebec, 1 from St. John, N.B., 1 from Lisbon, and 1 from Darien.

All aliens who intend to remain in the country three months or more are subject to medical examination. During 1926, 581 such examinations were made, and 8 persons were rejected on medical grounds, or 3 more than in 1925.

Particulars of the 8 persons rejected on medical grounds are as follows:—

U.S.A. citizen, male, 3rd-class passenger—hemiplegia.
U.S.A. citizen, female, 3rd-class passenger—arterio-sclerosis.
U.S.A. citizen, male, 2nd-class passenger—myxœdema.
U.S.A. citizen, male, 3rd-class passenger—peritonitis.
U.S.A. citizen, female, 2nd-class passenger—erysipelas.
U.S.A. citizen, female, 3rd-class passenger—cardiac disease.
U.S.A. citizen, female, 3rd-class passenger—blind.
U.S.A. citizen, female, 2nd-class passenger—cardiac dropsy.

Return of Alien Passengers arriving at the Port of Glasgow during 1926.

Nationality	Non-Transmigrants	Transmigrants	Total
Americans, ...	4,655	4	4,659
Europeans, ...	30	43	73
Asiatics, ...	3	0	3
Total, ...	4,688	47	4,735
Do. 1925, ...	4,468	51	4,519

EMIGRANTS.

During 1926, 117 ships carrying emigrants left the Clyde, being an increase of one over year 1925. Of the 117 ships, 40 sailed for America and 77 for Canada. The numbers during 1925 being 45 and 71 respectively. As in 1925, there were no sailings for Australia.

The following is a return of emigrants, with ships, which left Glasgow during 1926:—

Country.	Ships.	British Subjects.	Other Nationalities.	Total.
America, ...	40	15,875	3,518	19,393
Canada, ...	77	19,232	1,449	20,681
	117	35,107	4,967	40,074
1925, ...	116	27,927	3,661	31,588

RAT DESTRUCTION.

During the year 82 vessels were fumigated with sulphur by this department, in accordance with the instructions issued by the Scottish Board of Health. Of the 82, 27 were from infected ports, and 55 from non-infected ports.

In almost all instances the fumigation is done at the request of shipping companies, in order to comply with the regulations of the country to which the vessels are proceeding, usually in the United States, and it is seldom found that the vessels are badly infested with rats.

In 11 instances certificates of exemption from fumigation were granted, where the vessels were new or had been fumigated within six months. They were loaded at a distance of 8 feet from the wharf, and had taken all other precautions to prevent the ingress of rats.

After each fumigation a search was made for rats, and the following table summarises the results of fumigations, trappings, &c.:—

	Infected Ships.	Non Infected Ships.	Stores and Docks.
SO_2 Fumigations,	181	581	—
Trappings, ...	505	87	117
	686	668	117
Total, ...	..	... 1,471	

Altogether 1,471 rats were trapped or destroyed by fumigation on board ships, 592 of which were black rats and 879 brown or grey. 189 rats were submitted for examination to the City Bacteriologist.

Almost all rats were found in the holds of vessels. Of the total rats, 1,324 were male and 147 female.

NUISANCES ON SHIPBOARD.

2,304 inspections and reinspections of vessels in harbour were made during the year. The visits to oversea steamers numbered 1,598, and the revisits 350. In oversea sailing vessels, 8 inspections and 3 revisits were made, while 278 coasting steamers and 28 sailing craft were examined, revisits being paid to 34 of the former and 5 of the latter. 177 verbal warnings were given to masters where nuisances of a minor nature were found, and 55 intimations and 7 notices (under the Public Health Act) were served where defects existed. 321 verbal instructions were given, and 446 notices served on masters of vessels *re* locking up water-closet accommodation while vessels were in port.

The nuisances discovered numbered 1,380—in forecastles, rooms, &c., 477, and water-closets, wash-houses, &c., 276, while structural defects were found in 208 instances—156 within crews' quarters, and 52 in water-closet and lavatory compartments. General complaints were recorded in 419 instances.

Sanitary Defects and Nuisances.—The following table shows the nuisances found on board vessels arriving in the harbour:—

ARISING FROM STRUCTURAL DEFECTS.

Forecastles, Rooms, &c.—	1924	1925	1926
Overhead decks leaking, ...	44	68	24
Ports defective, ...	100	113	91
Skylights out of repair, ...	—	—	5
Without scupper-pipe or same cemented, ...	—	—	1
Ventilators plugged, out of repair or unshipped,	—	—	2
Without bogies or funnels, or such out of repair,	13	8	10
Inadequately lighted or ventilated, ...	7	9	3
Forward, ...	164	198	136

Forecastles, Rooms, &c. (continued)—	1924	1925	1926
Forward, ...	164	198	136
Radiators or steam-pipes defective, ...	18	15	10
Doors to forepeak and forecastle broken, ...	—	—	1
Ships' sides leaking, ...	—	5	1
Anchor chain exposed by sheathing being out of repair,	4	1	1
Doors of food lockers and seats out of repair, ...	—	—	1
Requiring wood-sheathing or cork-spraying for "sweat,"	2	3	2
Hawse pipes defective, ...	—	—	1
Floors broken and out of repair, ...	2	3	1
Bulkhead between forecastle and w.c. compartment broken, ...	—	1	—
Scuppers required, ...	—	—	1
Waste pipe leaking, ...	—	—	1
	190	226	156

Water-closets, Urinals, Wash-houses, &c.—	1924	1925	1926
Flushing apparatus, basins or discharge pipes defective, ...	3	12	15
New water-closet required, ...	4	2	2
Ports defective,...	2	—	—
Floor and woodwork out of repair, ...	2	—	—
Doors broken and new locks required (w.c.'s must be locked while ship is in harbour),	3	14	13
Ventilators plugged, ...	—	—	1
Woodwork of w.c. basin broken, ...	1	12	16
Compartments defective in light and ventilation,	3	2	5
	18	42	52

Arising from Misuse.	1924	1925	1926
Forecastles, Rooms, &c.—			
Alleyways and companionways dirty.	79	97	78
Floors, mat coverings, ceilings, woodwork, &c., dirty,	236	148	115
Interior of ships' sides or woodwork dirty (to be limewashed or repainted), ...	80	94	74
Galleys dirty, ...	4	16	13
Tables and benches dirty, ...	117	168	172
Scuppers choked (water lying stagnant), ...	8	19	11
Bunks dirty, ...	2	—	14
	526	542	477

Water-closets, Wash-houses, &c.—	1924	1925	1926
Floors, ceilings, and woodwork dirty, ...	107	102	89
Basins, hoppers, or troughs fouled, corroded, or choked,	75	119	106
Scuppers choked, ...	9	28	23
Wash-house dirty, ...	—	—	4
Interior requiring limewashing or repainting, ...	32	64	52
Waste pipe defective, ...	—	1	2
	223	314	276

General Nuisances.	1924	1925	1926
Food lockers dirty, ...	111	220	208
Bilges (hold) dirty, ...	18	32	44
Gear and food-stuffs stored in sleeping compartments,	1	4	4
Drinking-water tanks dirty and in need of re-cementing,	74	52	67
Do. out of repair or uncovered, ...	1	2	4
Accumulation of rubbish in forecastle or on deck,	30	62	56
Forecastle infested with vermin, ...	27	12	20
Bedding dirty or verminous, ...	—	10	16
Bilges ventilating into forecastle, ...	—	2	—
	262	396	419

The following table shows the number of oversea and coastwise ships inspected in the harbour during the years 1924-1926:—

	Inspections.			Re-inspections.		
	1924	1925	1926	1924	1925	1926
Oversea Steam,	1,773	1,728	1,598	353	337	350
,, Sail,	7	7	8	5	3	3
Coast Steam,	238	314	278	6	35	34
,, Sail,	7	24	28	1	6	5

	1924	1925	1926
Intimations, ...	105	63	55
Warnings, ...	246	201	177
Notices, ...	8	7	7
L.A.'s Letters, ...	8	14	20
Nuisances—			
Functional, ...	873	1,099	753
Structural, ...	170	265	208
General, ...	162	153	419

Of the total arrivals, 1,276 were British and 330 vessels sailed under foreign flags, the latter including 19 different nationalities, Norwegians, Americans, Spaniards, Germans, Danish, and Dutch predominating.

Pollution of River.—In order to reduce pollution of the river, the Clyde Navigation Trustees some years ago provided water-closet accommodation ashore for seamen. Intimation is therefore given to masters that all conveniences aboard ship must be kept locked while ship is in port. Complaints are frequently received from Deputy Harbour Masters and others that the nuisance still continues. There is, however, no legal power under which action can be taken, at least so far as obtaining a conviction.

Rags, Hair, Hides, and Bones.—The following table shows the imports of rags, hair, hides, and bones, with the source of origin and number of shipments from each country:—

Source of Origin.	No. of Ships	Rags.	No. of Ships.	Hair (Various.)	No. of Ships.	Hides (Various.)	No. of Ships	Bones
		Bdls.		Bdls.		Bdls.		Bags.
Continental, - -	56	1,405	25	398	51	16,943	1	228
Canadian, - - -	...	..	21	1,487	6	39,660	...	...
United States, - -	4	43	42	6,510	9	218	...	...
South America, - -	...	...	13	323	7	16,118	4	2,216
Australia & N. Zealand,	...	...	...	...	22	4,368	...	...
India, - - - - -	...	...	...	...	15	550	2	186
South Africa, - -	1	4	..	..	7	391	1	112

In addition to the foregoing, there is a considerable quantity of rags imported from Irish Free State ports.

UNSOUND FOOD REGULATIONS.

The following table shows the character and quantity of the food-stuffs imported direct during 1926 (but does not include coastwise or transhipped cargoes), a percentage of which was examined by the Food Inspectors before removal:—

Article.	Weight. Tons.	Cwts.	Article.	Weight. Tons.	Cwts.
Apples, ...	43,474	10	Baking Powder, ...	92	18
Apricots, ...	301	9	Barley, ...	18,875	11
Almonds, ...	837	17	Butter, ...	2,261	6
Bananas, ...	22	12	Cereals (Oats, Rye, &c.),	83,867	18
Bacon, ...	1,182	4	Cheese, ...	4,398	14

Article.	Weight Tons.	Weight Cwts.	Article.	Weight Tons.	Weight Cwts.
Coffee, ...	1	1	Milk (canned), ...	133	12
Cocoa, ...	17	10	Milk (powder), ...	74	2
Condiments, ...	1,784	15	Molasses, ...	1,098	9
Confectionery, ...	439	8	Macaroni, ...	405	10
Cream of Tartar, ...	535	18	Nuts (various), ...	1,772	8
Eggs, ...	6.430	5	Oils (various), ...	8,561	15
Eggs (liquid), ...	3,551	14	Onions, ...	23,234	18
Eggs (albumen), ...	212	10	Oranges, ...	33,128	—
Fish (canned, &c.), ...	764	4	Orange and Lemon Peel.	68	18
Fruit (canned), ...	2,884	16	Peaches (canned), ...	965	6
Fruit (dried), ...	5,440	7	Pears, ...	1,934	11
Fruit (pulp), ...	647	19	Pears (canned and dried)	1,472	15
Flour (various), ...	153,633	14	Pineapples. ...	1,223	18
Farinaceous Foods, ...	1,578	14	Plums (canned and dried),	382	8
Glucose, ...	6,200	5	Pomegranates, ...	516	14
Grapes, ...	2,094	10	Potatoes, ...	708	5
Grape-Fruit, ...	755	16	Peas, ...	10,797	4
Ham, ...	13.323	17	Rice, ...	4,675	12
Honey, ...	77	19	Sundries, ...	5,343	19
Lard (pure), ...	3,387	13	Sugar, ...	47,066	9
Lard (compo.), ...	154	8	Syrup, ...	69	9
Lemons, ...	4,110	5	Tomatoes, ...	3	19
Liquorice, ...	23	14	Tomatoes (canned),	610	8
Meal (various), ...	17,689	7	Vegetables (canned),	771	1
Meats (canned, &c.),	4,785	18	Wheat, ...	163,705	14
Melons, ...	1,211	4			
Total weight, ...			695,777 tons 11 cwts.		

The following food-stuffs were found unfit and disposed of to the satisfaction of the Medical Officer of Health:—

Article.	Weight Cwts.	Weight Qrs.	Weight Lbs.	Article.	Weight Cwts.	Weight Qrs.	Weight Lbs.
Almonds, - -	1	—	—	Margarine, -	80	—	—
Apples, - -	309	3	12	Meats (canned), -	—	—	12
Carraway Seed, -	3	—	—	Oatmeal, - -	3	—	—
Confectionery, -	20	—	—	Oat Flakes, -	3	—	—
Desiccated Cocoanut,	3	—	—	Oranges, - -	8,500	—	—
Egg Yolk, -	460	2	—	Pears, - -	130	1	—
Flour, - -	59	—	—	Tallow (edible), -	372	—	—
Grapes, - -	24	3	—	Wheat, - -	20	—	—
Total weight, - -				9,989 cwts. 1 qr. 24 lbs.			

The above table shows the great variety of the food-stuffs inspected and dealt with. The method of procedure in each case is the same. The suspected food-stuffs are detained for further inspection, the consignee is communicated with, and a suitable time fixed for re-examination of the material. As a rule, the consignees, on being satisfied as to the unsoundness of the food, empower the inspector to have the condemned food disposed of, thereby obviating the necessity for obtaining a warrant from the Sheriff or Magistrate.

Much time is often taken up in examining and supervising the reconditioning of consignments under the Unsound Food Regulations, 1925. The following are examples of this:—

The s.s. *Puma*, loaded outwards for Dublin. The forehold of this ship was on fire, the fire being hosed with water pumped from River Clyde. Contents of the damaged hold were salved, and landed in shed at Lancefield Quay. An examination of the edible portion of the cargo showed 4 cases biscuits, 12 cases almonds, 50 cases apples, 28 packages confectionery, 8 sacks flour, 3 cases containing jam (marmalade, &c.), 5 cases desiccated cocoanut, and 28 cases margarine, to be more or less damaged by smoke and river water. The damaged material was detained for further examination, and samples were submitted to the City Analyst and Bacteriologist respectively.

The City Analyst reported that the chocolates had been thoroughly saturated with river water, had an unpleasant odour, and were unfit for human consumption, and that while the apples had also been drenched with river water, he was of opinion that, if thoroughly washed, they could be used without ill effect. Almonds and margarine were stated to be contaminated with river water, and that while the almonds were unfit for human consumption, the margarine could be used after reconditioning.

The Glasgow Salvage Association was notified that the almonds, confectionery, jam, apples, &c., could only be disposed of for certain purposes and on certain conditions.

The salved cargo was sold by auction. Previous to and during sale the auctioneer notified the intending purchasers that the almonds and confectionery were unfit for human consumption; that the jam could only be disposed of on condition that it was reboiled; that apples should be washed; and that margarine, desiccated cocoanut, and flour could be used after reconditioning. The names and addresses of purchasers were submitted to this department. Periodical visits were paid to the premises of all buyers, when it was noted that the conditions imposed were being satisfactorily carried out, with the exception of 12 cases of almonds (weight, approximately, 28 lbs. per case), which were sold to a dealer for poultry feeding, at the price of 8s. per case.

The inspectors present at the sale considered that the value of the almonds for poultry feeding would be about 2s. a case, and took special note of the transaction, with the subsequent result that the buyer was visited on several occasions, and asked to produce evidence as to how he had disposed of the almonds. As the dealer could not or would not give definite information, the opinion was formed that the almonds had been sold for human food, and as this was a case of selling food-stuff after it had been condemned, the matter was reported to the Sheriff, who, after hearing the evidence of parties interested, stated that it was a gross contravention of the Unsound Food Regulations, and fined the dealer of the almonds in the sum of £20.

* * * * * * * *

The s.s. *Gracia*, from St. John, N.B. This ship arrived at Prince's Dock with a large general cargo. On examination it was found that a large number of bags of flour, oatmeal, and oat flakes, with a quantity of wheat, were in a wet condition. As the ship had been carrying a number of cattle, there was reason to believe that the cereals had been contaminated by wash from manure in the cattle stalls situated 'tween decks. Samples were taken and submitted to the City Analyst, who confirmed the suspected source of contamination. The owners were notified of this result, and arrangements were made to have the cereals reconditioned in the loft at Prince's Dock. Visits were paid daily for ten days during the reconditioning, which was carried out in a very satisfactory manner. Wheat amounting to 20 cwts. and 3 cwts. of oatmeal were removed by the Cleansing Department to the destructor, while 37 cwts. of flour and 3 cwts. of oat flakes were mixed and bagged, and thereafter disposed of for pig-feeding.

The s.s. *Ballycotton*, from London. This ship arrived here with a general cargo, part of which consisted of barrels of egg-yolk. The egg-yolk was examined, and samples submitted to the City Analyst. Owing to the unwholesome appearance of the yolks, the owners were notified that the consignment must not be used without consent. The City Analyst reported that the yolks were unfit for human consumption owing to decomposition, the samples submitted containing an excessive amount of free fatty acids. The owners were notified of this result, and the egg-yolk, weighing approximately 460 cwts., was condemned, and disposed of in conformity with the regulations.

ARSENIC IN APPLES.

On 3rd November, 1925, the Board of Health reported that certain consignments of apples had been examined and found to contain arsenic in unusual amounts. The depressions at the calyx and stem of the apples were invariably found to show evidence of a bluish-green deposit, resulting from the use of insecticide spray.

Of 76 samples of various brands of apples, 25 were reported as containing no arsenic. Of the remaining 51 samples, 36 contained arsenic within the prescribed limit; 5 contained 1-100th of a grain; and 10 contained quantities varying from 1-85th to 1-25th of a grain per lb. 66 of the samples were taken from apples landed here from North American ports, and 10 were from Australasian and Canadian ports.

It was not considered necessary to condemn any of the fruit, and no instance occurred in which sickness could be attributed to its consumption. The discovery of the presence of arsenic in these amounts, retained chiefly in the stem depressions of the apples after spraying with an insecticide apparently in general use in the United States, was a disquieting experience, and representations were made to the leading fruit importers, who in turn communicated with the International Apple Shippers' Association. This body has the matter under consideration, in order that preventive measures may be taken before next season. The matter was reported to the Board of Health.

During the year food-stuffs were sampled and submitted to the City Analyst, who reported as follows:—

Article.	Samples Reported. Fit for Human Consumption.	Samples Reported. Unfit for Human Consumption or not in conformity with Regulations.	Notes on Defective Samples
Almonds, ...	1	2	Contaminated by river water. Parcel condemned and released for poultry feeding.
Apples, ...	25	51	Contained Arsenic, varying from $\frac{1}{1000}$ to $\frac{1}{25}$ of a grain per lb.
Apricot Pulp, ...	2	—	
Baking Powder, ...	1	—	
Blackberries, ...	3	—	
Butter, ...	53	1	Contained an excessive amount of moisture.
Buttermilk, ...	1	—	
Cereals (Grape Nuts, Force, &c.), ...	6	—	
Coffee Substitute, ...	2	—	
Cheese, ...	3	—	
Confectionery, ...	1	6	Damaged by smoke and contaminated by river water.

Article.	Samples Reported. Fit for Human Consumption.	Samples Reported. Unfit for Human Consumption or not in conformity with Regulations.	Notes on Defective Samples.
Cream of Tartar, ...	13	—	
Egg Yolk (liquid), ...	62	3	Decomposition. Released and exported by owners to the continent.
Egg Albumen, ...	2	—	
Egg Whole (liquid),	1	—	
Fats (various), ...	14	—	
Fish (canned, &c.), ...	10	—	
Flour (various), ...	—	9	Damaged by salt water—reconditioned in stores under supervision. Part parcel released for re-shipment, and remainder for industrial and pig-feeding purposes.
Fruits (dried), ...	7	—	
Fruits (canned), ...	75	—	
Gelatine (edible), ...	1	—	
Glucose, ...	2	—	
Grain (Wheat, Maize, &c.), ...	—	2	Wheat damaged by bilge-water. Destroyed.
Honey, ...	1	—	
Jam, ...	1	—	
Lard, ...	13	—	
Macaroni, ...	3	—	
Margarine, ...	2	1	Rancid. Released for soap-making.
Meats (canned, &c.),	23	—	
Milk (canned), ...	11	—	
Milk (dried), ...	4	—	
Molasses, ...	1	—	
Oatmeal, ...	—	2	Damaged by bilge-water. Released for pig-feeding.
Oils (various), ...	23	—	
Pork and Beans, ...	14	—	
Sauces, ...	5	—	
Soups, ...	9	—	
Syrup, ...	1	—	
Tartaric Acid, ...	2	—	
Tomatoes (canned),	12	—	
Treacle, ...	1	—	
Vegetables (peas, &c.),	16	—	

FOREIGN MEAT REGULATIONS.

Beef.	1924	1925	1926
Quarters, ...	31,816	34,498	21,321
Bags, ...	208,444	174,492	192,062
Rumps (tierces), ...	1,904	1,419	1,403
Mess (barrels), ...	800	1,110	537
,, (boxes), ...	716	—	—
,, (crops), ...	—	371	—
Boneless (boxes), ...	52,572	69,773	30,214
Tierces, ...	601	691	327
Casings (tierces),... ...	—	—	24
Fat, ...	413	489	700
Ox.			
Livers, ...	2,516	2,524	241
Kidneys (boxes), ...	419	—	38
Skirts, ...	—	1,046	—
Cheeks, ...	1,380	1,594	—
Sweetbreads (boxes), ...	179	550	24
Tripe (boxes), ...	8,284	1,864	6.155
Hearts, tails, &c., ...	—	1,621	49
Tongues (boxes), ...	—	54	697
Veal.			
Carcases, ...	—	32,245	—
Sides, ...	277	204	14
Bags, ...	70	387	36
Boxes, ...	1,567	2,966	2,120
Mutton.			
Carcases, ...	65,908	27,540	31,366
Cuts (bags), ...	—	13	6
Casings, ...	89	60	210
Pork.			
Mess (barrels), ...	610	523	—
,, (carcases), ...	—	—	—
,, (boxes), ...	12,077	3,082	—
,, (tierces), ...	42	30	—
Tongues, &c. (bags or boxes),	—	655	—
Hearts,...	—	—	—
Forward, ...	390,684	359,801	287,544

	1924	1925	1926
Forward, ...	390,684	359,801	287,544
PORK (*continued*)—			
Casings (barrels or tierces),	152	177	—
Ham (tierces), ...	288	379	220
,, (boxes), ...	—	12,946	10.919
,, (bags), ...	—	—	60
Loins (boxes), ...	10,847	5,218	8,933
Mess barrels, ...	—	—	570
Carcases, ...	12,826	9,803	12,941
Bacon (tierces), ...	—	—	5
,, (bales), ...	—	555	1,131
Shoulders (boxes), ...	—	—	742
Kidneys (boxes), ...	—	—	13
FISH, FOWLS, &c.			
Salmon, ...	152	—	—
Fowls, ...	512	1,770	—
Others, ...	335	—	—
Total Packages, ...	415,796	390,649	323,078
Destroyed—			
Beef (bags), ...	—	—	31

EXPENDITURE AND REVENUE FOR THE YEARS ENDING 31ST MAY.

	1925	1926	1927
Expenditure.	£	£	£
Boarding Station, Greenock, ...	1,338	1,446	1,419
Glasgow Harbour, ...	3,678	3,842	3,865
General and Administrative, ...	1,546	1,709	1,743
Medical Inspection under Aliens Order,	358	373	357
Total, ...	6,920	7,370	7,385
Revenue.			
From other Authorities, Government Grant, &c., ...	3,508	4,222	4,592
Glasgow Expenditure, ...	3,412	3,148	2,793

SECTION X.

HOUSING.

In Appendix Table III the linings for new houses granted by the Dean of Guild Court are given from year to year. Those granted last year (6,796) show a considerable advance over the number in former years, although the rapidity with which the shortage is being overtaken is not yet sufficiently great.

The principal factor in the housing situation is the intense degree of overcrowding which prevails in the small houses of the City. A very full account of this feature was given in last year's report, and there is still no evidence that the situation has been relieved to any extent. It was shown that in selected streets of the City the proportion of houses containing two families, mostly those of two apartments, varied from 2 to 10 per cent. Last year the divisional inspector for the South-Western Division made a survey of certain streets in Govan, in which he found that in 2,110 houses 254, or 12 per cent., contained two families. In some of these streets the proportion was even greater. For instance, in three streets containing 700 houses, the houses with sub-let rooms numbered 146, or 20 per cent. This method of meeting the housing shortage by sub-letting rooms is becoming prevalent in certain districts. It contributes in no small degree to the numerical overcrowding in the smaller houses. For a full account of the conditions disclosed, reference should be made to this report in Section XII, Part 3.

The following report on the question of overcrowded houses was submitted to the Corporation Housing Committee:—

HOUSING IN RELATION TO OVERCROWDING.

I think it is desirable that the prevalence of overcrowding in the smaller houses of the City should be again reviewed, with special reference to housing policy, and I have accordingly prepared a statement of such facts as are available.

It is difficult to estimate the gross extent to which overcrowding prevails in the City, because there are no figures for the City as a whole later than those compiled from the 1921 Census; but there is a good deal of evidence that very little improvement in this respect has taken place since then.

(1) *The Conditions.*—A feature which is becoming more and more prominent is the prevalence of two families occupying one house, particularly a two-apartment house. This aspect of overcrowding is unobtrusive, but in the Annual Report for last year instances were given of its prevalence in small selected areas of the City. The following is taken from the report :—

"In Appendix Table I of the Glasgow volume of the Census of 1921 figures are given showing that 225,059 houses had 233,808 separate "occupiers," an excess of 8,749, or 3·9 per cent. This indicates roughly the degree to which houses were then being occupied by two or more families. Some information as to the present position may be gathered from two sources :—(1) Among the occupants of 3,976 houses, mostly of one and two rooms, surveyed in 1924 for slum clearance purposes, 230, or 5·3 per cent., were occupied by two families. Many of these houses are of the ticketed class, and under supervision as regards overcrowding; otherwise this figure would no doubt have been higher. If, however, the two-apartment house is alone considered, it is found that in a recent census of 477 ticketed houses in the northern area of the City, 49, or 10·3 per cent., were housing two families. (2) Inquiries have recently been made by the divisional inspectors into the prevalence of "double occupancy" of houses occupied by the stratum of the population well above this group, *i.e.*, the better-housed labouring and artisan classes. Streets were selected in various parts of the City, comprising mostly two-apartment houses, and the result shows that the proportion of houses occupied by two families in certain districts actually reached 10 per cent.

"This table shows considerable variation, *i.e.*, from 1 to 10·7 per cent. of houses occupied by more than a single family among the selected groups. The figure of 6·4 per cent. for the total (5,811) houses which were made the subject of inquiry cannot, of course, be applied generally to the small houses of the City, but it is sufficient to indicate the growth of one aspect of overcrowding among people whose requirements are being least catered for. This form of overcrowding mostly affects the two-roomed house, and is the result of the present social and economic causes, due partly to lack of available houses and partly to a desire on the part of the householder to add to his income."

The One-apartment House.—A survey of the conditions in the one-apartment houses in the Central Division was made last year, and the indication of this partial Census was that 41 per cent. of the houses contained more than three persons per room; in the Census of 1921 the figure for the whole City was 39 per cent. Contrasting the present partial Census with the former complete one, the figures for the Central Division show a somewhat greater proportion of grossly overcrowded houses.

(2) *The Demand.*—A very large number of illustrative cases could be given where the demand has been created by the growth of a large family in a small house, by the presence of two families in one house, or by unsuitable housing conditions which cannot at present be

regarded as amounting to uninhabitability; where the total income of the family is such that the rent of a subsidy house could not be met or could only be met with the utmost difficulty.

(3) *To what Extent is the Process of Decantation operating?*—This process means that removal of families into other and larger houses should set free an equivalent number of other houses, and so in time relieve the congestion in the areas where most overcrowding occurs. Theoretically, therefore, it should not matter very much what size the new houses are, or at what rental they are let (within limits), provided they are produced in sufficient quantity. In practice, however, the process of decantation is extremely slow, and the indication from the data given above is that it has scarcely relieved the general situation. It must be remembered also that when a house is decontrolled there is no guarantee that the rent will remain unaltered. To what extent the rents of vacated houses have been altered is unknown, but from figures supplied by the City Assessor to the Burgh Valuation Committee it would appear that there is a tendency for the rents of decontrolled houses to rise to the extent of 9·1 per cent. on the average. The Assessor's figures apply to houses varying from rentals of £15 upwards. This figure is an average one, and the amount of individual increase may vary within fairly wide limits. It is clear that a process of this kind may interpose a barrier to the relief which the process of decantation might be expected to afford.

The Director of Housing has prepared a table showing the size and number of apartments of the 10,713 houses built and being built under the various Acts. Of these, 6,723 are of three apartments, 3,305 are of four apartments, and 685 are of five apartments. The largest proportion of houses built and being built under subsidy schemes are those of three apartments, and it is in accordance with experience that this size of house is the one in chief demand.

Briefly, the position is that the stratum of the population which has been least relieved, and whose housing needs are very great, is the working-class group above the level of the occupant of the uninhabitable house. The demands of this group are only being met by the slow process of decantation on the one hand, and on the other hand by the faint prospect of substitution in connection with Slum Clearance and Re-housing Schemes.

I would therefore recommend that the Committee on Housing should take into consideration the question of relief of overcrowding in small houses, and whether their housing schemes are sufficiently directed to this purpose.

A. S. M. MACGREGOR.

11th December, 1926.

High densities of population, such as are produced by the overcrowding of small houses in closely packed tenements, react most unfavourably on child life, because they produce a high incidence of those diseases which depend on close contact for

their dissemination, and which affect the lungs, such as pneumonia, measles, and whooping-cough. An illustration of this is found in the behaviour of measles, one of the chief fatal affections of childhood. It is a feature of this disease that its severity is greatest in proportion to the youth of the children who contract it. A recent important inquiry in Glasgow, referred to in the section on measles, has demonstrated that a crowded tenement teeming with life has the effect of exposing the young inhabitants to measles infection at an early age, when the disease is most severe and most fatal. The contrast between its behaviour in a congested tenement area and in an adjacent housing scheme, as regards the age at which young children were attacked, was found to be very striking. Overcrowding merely enhances this disastrous result.

In a recent memorandum on the whole housing operations of the Corporation the Director of Housing states that, as at 31st March, 1927, 8,742 houses have been provided under the various Acts; 7,641 are in progress; and it is proposed to build 10,378 on land which has been acquired for the purpose. This makes a total of 26,761.

Provision is being made for the erection of 4,500 houses of three apartments, which will be let at rentals of 12s. to 12s. 6d. per week.

CONDITIONS IN RE-HOUSING SCHEMES.

In the report of last year information was given as to condition of the houses in re-housing schemes occupied by families transferred from slum areas. The question was subsequently made the subject of special consideration by a Sub-Committee of the Insanitary Areas Sub-Committee, which, on consideration of the following report, recommended the appointment, as a charge against the Housing Department, of a special officer attached to the Health Department, to assist in the routine inspection of re-housing schemes.

In the report of 25th January, 1926, the result of observations made up to that time indicated that in 835 houses the standard of cleanliness reached in 61 per cent. was "very good," and that, as regards the Hamiltonhill Scheme especially, the conditions found were decidedly adverse in about 10 per cent. This report is concerned with the last-mentioned group only, and includes the results of

observations made on 1,144 houses in the various schemes, classified as follows :—

Division	Rehousing Scheme		No. of houses inspected	No. classified as "Dirty"
Central,	Yorkhill, ...	...	84	6
Northern,	Hamiltonhill, ...	...	348	36
,,	Campbell Street,	...	138	17
Eastern,	Newbank, ...	...	358	33
South-Eastern,	Polmadie, ...	...	102	10
South-Western,	Whitefield Road,	...	114	9
			1,144	111

The proportion of houses classed as being definitely in a condition of uncleanliness remains much the same as before, though in some cases the tenants have improved, while others have reverted from the intermediate and "fair" category. The majority of these houses have been under observation for a considerable period, and details of some typical cases are appended. Periodic reports go to show that a certain amount of oscillation is found from time to time as between "fair" and actually "dirty" conditions. In a number of instances notices under Section 9 (1) of the Glasgow Corporation (Police) Order, 1904, have been served, but so far without proceeding to prosecution.

The practice is to carry out routine inspection of all the houses in the various schemes three or four times a year, for the purpose of recording (*a*) overcrowding and (*b*) conditions as to cleanliness. Special attention is given to those found in a dirty condition, to which repeated visits are paid until some improvement is apparent. As a result the majority appear to improve and relapse alternately, while a few seem to be almost incorrigible.

Arising out of this procedure and its results there are one or two points which should receive consideration :—

(1) The Divisional Sanitary Inspectors are not satisfied that a position has been reached where eviction is the immediate remedy. As regards the Yorkhill, Polmadie, and Whitefield Road Schemes this view is quite definite. As regards the larger schemes at Hamiltonhill and Newbank, where certain individual tenants are causing anxiety, this course may become necessary.

(2) If the standard of cleanliness is to be permanently raised, it is clear that this can only be attained under a regime of more frequent inspection. The impression of the responsible officers in each area is that this effort should be made.

(3) There are two methods by which pressure could be exercised. Supervision might be made the definite function of resident caretakers, acting under the Manager of the City Improvements Department. On the other hand, the person or persons undertaking this duty might be attached to the Public Health Department, and armed with the powers of the Sanitary Inspector.

With the large number of houses now in occupation and rapidly increasing, it is becoming more and more difficult for the divisional staff to exercise really effective supervision, especially in the Hamilton-hill, Campbell Street, and Newbank Schemes, while other areas will shortly be added.

As regards re-housing schemes, the functions of the sanitary staff comprise routine inspection of all houses as regards overcrowding and cleanliness. Experience shows that as regards the latter some 60 per cent. fall into the category of "very good." There is, therefore, a good deal of scope for efforts to raise the remainder to this standard. Whatever procedure is decided upon it should be regarded as a natural extension of the Health Department.

If this view is accepted, it is suggested that, under present circumstances, a special officer be appointed to assist in the routine inspection of houses in the Northern and Eastern Divisions of the City. It would be preferable to second for this particular duty one of the existing experienced members of the Health Department staff, who would still remain attached to the Health Department for administrative purposes, but the amount of her salary should be charged against the City Improvements Department. This suggestion is made because such an official would be in a position to exercise the statutory powers of the Health Department, but as the social objects aimed at are somewhat beyond the immediate sphere of Public Health or Sanitary Administration, the cost of this extra person should fall upon the City Improvements Department rate.

(4) The Sanitary Inspectors are of opinion that their powers as regards uncleanliness in houses are not sufficiently strong. As regards inspection, it is assumed that Section 56 of the Housing (Scotland) Act, 1925, is sufficient authority for systematic inspection for sanitary purposes. Under Section 9 (1) of the Glasgow Corporation (Police) Order, 1904, the inspector, if he is of opinion that the house is not in a cleanly condition, must give notice in writing to the occupier to cleanse the house within 48 hours, under a penalty of forty shillings. In the great majority of cases some effort towards cleanliness is made within this period, and the grounds for prosecution are so far removed. The same difficulty is encountered elsewhere, and the Burgh Police (Scotland) Bill, now before Parliament, contains a clause (No. 30), which seeks to remove this by giving power to prosecute in respect of the keeping of a dwelling-house in a dirty condition "at any time within three months" after notice has been served. If this Bill becomes law, the adoption by the Corporation of Section 119 of the Burgh Police (Scotland) Act, 1892, as thus amended, or the incorporation of equivalent powers in any provisional Order promoted by the Corporation, would strengthen existing powers.

It should be added that the special officer whose appointment is suggested above should be regarded as additional to and not in substitution for existing caretakers, whose functions are of a different character, but who could assist the special officer by directing particular attention to any house requiring special supervision.

SLUM CLEARANCE AND RE-HOUSING SCHEMES. PARLIAMENTARY ROAD AREA.

During the month of March, 1914, reports and plans which had been prepared by the Medical Officer of Health and the Sanitary Inspector relative to certain congested areas in the City were considered by the Executive Committee on Housing, when they referred two areas in the Townhead and Greenvale districts respectively to a valuator to report on the various subjects comprised in the areas. On 4th December, 1914, it was agreed, subject to the approval of the Local Government Board being obtained, to carry out a reconstruction scheme under the Housing, Town Planning, &c., Acts, 1890-1909, and (*a*) that certain offers which had been obtained for certain properties in Parliamentary Road, Townhead, be accepted; (*b*) that the Board be requested to appoint an arbiter in terms of the said Acts to deal with other offers; and (*c*) that the acquisition of the Greenvale area should meantime be delayed. On 10th December, 1917, the Commissioner appointed by the Local Government Board held an inquiry into the petition by the Corporation for an Order confirming the reconstruction scheme for the Parliamentary Road area, and an Order was later issued by the Board. Owing to war conditions, however, arbitration proceedings for the adjustment of the price of the remaining properties were not instituted.

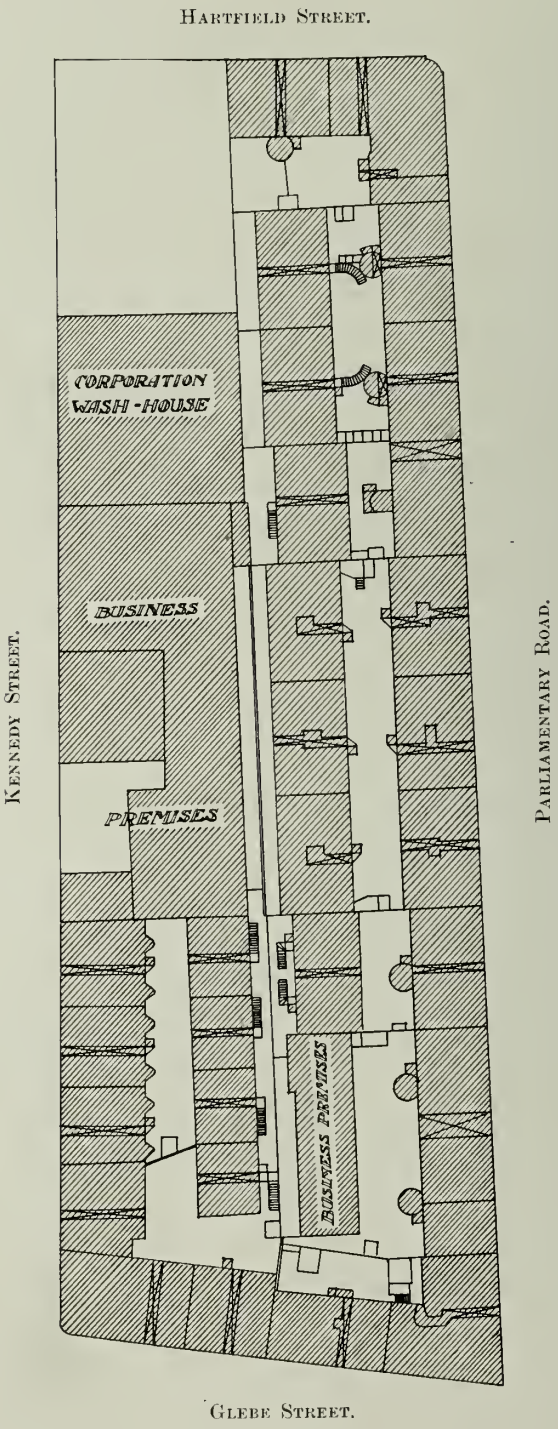
In March, 1925, certain houses in Campbell Street, Springburn, which had been provided for the re-housing of families to be dispossessed under the 1923 Slum Clearance Scheme, were ready for occupancy; and on 6th April, 1925, the Sub-Committee on Insanitary Areas agreed that the Parliamentary Road Scheme be proceeded with, and that the houses at Campbell Street be utilised for the dispossessed tenants.

As will be seen from the following statement, the houses in this area have now been completely demolished and the tenants re-housed:—

	1 apt.	2 apts.	Total
Houses Closed or Unoccupied at commencement of Scheme—			
Number demolished during 1926, ...	25	4	29
Houses in Occupation at commencement of Scheme—			
Number closed prior to 31st Dec., 1925, and demolished during 1926, ...	33	6	39
Number closed and demolished during 1926, ...	16	37	53
	49	43	92
Total Houses in Scheme, ...	74	47	121

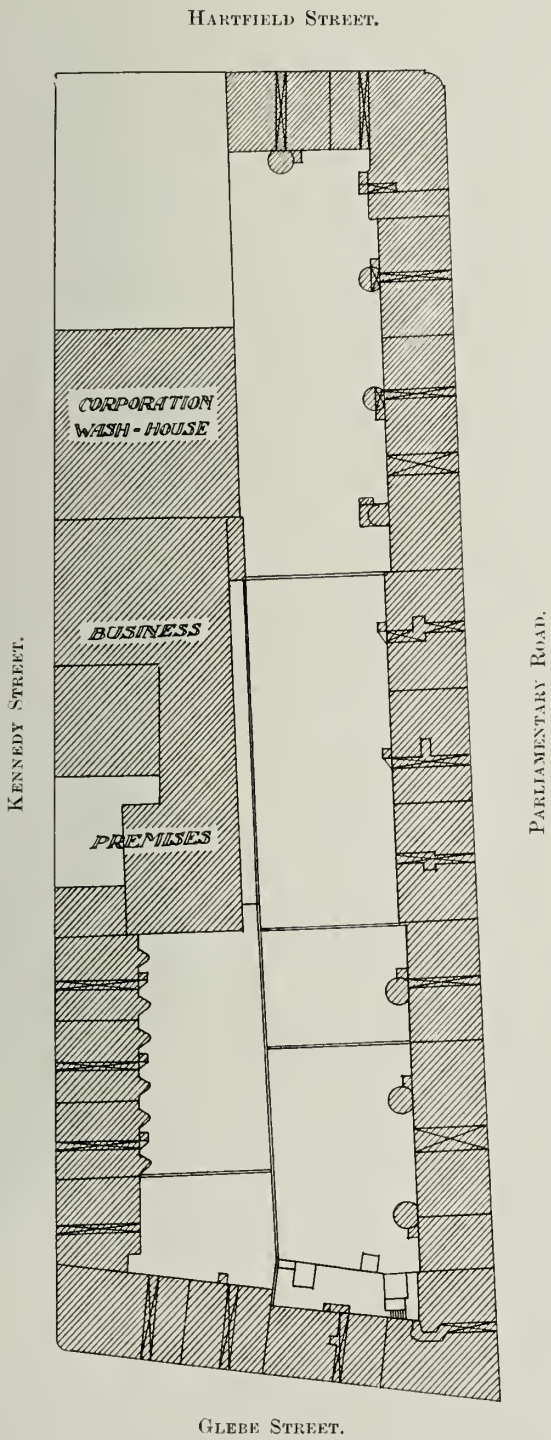
PARLIAMENTARY ROAD IMPROVEMENT SCHEME.

BEFORE CLEARANCE.



PARLIAMENTARY ROAD IMPROVEMENT SCHEME.

AFTER CLEARANCE.



Parliamentary Road Area.—**Before** Clearance.

Parliamentary Road Area.—**After** Clearance.

Number of Families—		
Transferred to Re-housing Schemes—		
Prior to 31st Dec., 1925, ...	33	
During 1926, ...	40	
	—	73
"Substituted" and transferred to Re housing Scheme—		
Prior to 31st Dec., 1925, ...	6	
During 1926, ...	12	
	—	18
Removed voluntarily or on account of non-payment of rent during 1926, ...	1	
	—	1
Total in Scheme, ...		92

This scheme included two rows of back lands, contained within a square formed by Parliamentary Road, Hartfield Street, Kennedy Street, and Glebe Street, Townhead. Two sets of plans and photographs are included. The degree of the congestion is exhibited in the first of each set, while the second illustrates the improvement which has followed the removal of the back lands.

The area in the Greenvale district, which was also under consideration in 1914, formed part of the 1923 Slum Clearance Scheme.

GLASGOW (COWCADDENS, &c.) IMPROVEMENT SCHEME, 1923.

The following table shows the position as regards demolitions and re-housing of the families included in this scheme:—

	1 apt.	2 apts.	3 apts.	Total
Houses closed or unoccupied at commencement of Scheme—				
Number demolished prior to 31st Dec., 1925, ...	40	15	—	55
Number demolished during 1926, ...	—	1	—	1
	40	16	—	56
Houses in occupation at commencement of Scheme—				
Number closed and demolished prior to 31st Dec., 1925, ...	367	444	20	831
Number closed prior to 31st Dec., 1925, and demolished during 1926, ...	38	78	1	117
Number closed and demolished during 1926, ...	59	104	15	178
	464	626	36	1,126

	1 apt.	2 apts.	3 apts.	Total.
Number closed prior to 31st Dec., 1925, and not demolished at 31st Dec., 1926, ...	4	—	—	4
Number closed during 1926, and not demolished at 31st Dec., 1926, ...	179	88	6	273
	183	88	6	277
Number still in occupation at 31st Dec., 1926, ...	296	102	1	399
Total Houses in Scheme, ...	983	832	43	1,858

Number of families—

Transferred to Re-housing Schemes—		
Prior to 31st Dec., 1925, ...	792	
During 1926, ...	402	
		1,194
"Substituted" and transferred to Re-housing Schemes—		
Prior to 31st Dec., 1925, ...	40	
During 1926, ...	42	
		82
Removed voluntarily or on account of non-payment of rent, &c.—		
Prior to 31st Dec., 1925, ...	125	
During 1926, ...	18	
		143
Still to be provided for at 31st Dec., 1926, ...		426
Total in Scheme, ...		1,845

Since December practically all the remaining families have been dealt with.

1926 AND 1927 SLUM CLEARANCE SCHEMES.

A further Slum Clearance and Re-housing Scheme, approved by the Corporation on 24th December, 1925, included 1,051 houses (490 of one apartment, 507 of two apartments, 51 of three apartments, and 3 of four apartments), inhabited by 4,532 persons. The Commissioner appointed by the Scottish Board of Health held a local inquiry into the scheme during the month of September, 1926, but the formal Order of the Board confirming the scheme, with adjustments, was not issued until April, 1927.

The adjustments referred to do not affect any of the houses included in the scheme. The Commissioner in his report said:—"During our whole inspection we did not see a solitary dwelling-house which the Medical Officer had placed in Schedule II whose removal to Schedule I we could contemplate for a moment."

Several business premises which had been included in the scheme for efficiency purposes were excluded by the Commissioner. In only one case, however, did the exclusion of business premises affect the original purpose of the scheme. In this instance the business premises were included, in order that the Corporation could control the development of the site, and thereby safeguard the light and ventilation of adjacent tenements of dwelling-houses. The Commissioner pointed out that what he had to deal with was not what would happen in the future, but with what actually existed.

The houses and areas represented in the 1926 Scheme are situated as follows:—

CENTRAL DIVISION.

Ward.	Address.	Number of Lands. Front.	Back.	Total.
12 (Exchange)—	118 George Street, west back land,	—	1	1
	118 George Street, east back land,	—	1	1
	137 Barrack Street, back land, ...	—	1	1
	131 Barrack Street, back buildings,	—	1	1
	21 Sydney Street, 1st right stair,	—	1	1
	21 Sydney Street, 1st left stair,	—	1	1
	21 Sydney Street. 2nd left stair,	—	1	1
	21 Sydney Street, 3rd left stair,	—	1	1
	355½ Gallowgate, ...	—	1	1
	149 Græme Street, 1st back land,	—	1	1
	149 Græme Street, 2nd back land,	—	1	1
13 (Blythswood)—	15 Carrick Street, ...	—	1	1
	81 Carrick Street, ...	—	1	1
	36 West Russell Street, ...	—	1	1
14 (Anderston)—	21 Hydepark Street, ...	—	1	1
15 (Sandyford)—	8 Bishop Street, ...	—	1	1
	72 Bishop Street, ...	1	—	1
	17 Perth Street, ...	—	1	1
		1	17	18

NORTHERN DIVISION.

9 (Cowlairs Ward)—

1 front tenement situated at 77-79 Millarbank Street.

8 (Provan Ward)—

2 tenements of one storey, basement, and attics situated at 344-348 Townmill Road.

11 (Townhead Ward)—

2 front tenements situated at 4-6 Weaver Street and 48-50 Rottenrow.

17 (Cowcaddens Ward)—

(*a*) 3 front tenements at 12, 16, and 20 Charlotte Street; and 2 back tenements entered from 20 Charlotte Street.

(*b*) 1.—1 two-storey building and attics, entering from 170 Port-Dundas Road and 4 Forth Street.

2.—1 two-storey building, with attics and basement, entering from 6 and 8 Forth Street.

3.—7 two-storey buildings, numbered 59-111 Water Street, No. 111 having also entrance from 11 Charlotte Street.

4.—A rectangular block of buildings lying between Dobbie's Loan, Bishop Street, Water Street, and Charlotte Street, consisting of 5 two-storey buildings, entering from 100 to 108 Water Street; 1 three-storey building, entering from 138 Bishop Street and 100 Water Street; 1 three-storey building at the corner of Bishop Street and Dobbie's Loan, and entering from 384 Dobbie's Loan; and 3 four-storey buildings, entering from 374-384 Dobbie's Loan.

(*c*) 1 two-storey tenement entered from 125 Garscube Road.

EASTERN DIVISION.

4 (Calton Ward)—

(*a*) the front tenement situated at 88½-92 London Street.

(*b*) the front land at 81-83½ King Street and the back land at 83 King Street.

(*c*) the front land at 85-89 King Street.

(*d*) two back lands at 220 Main Street and 21 Mill Street.

(*e*) two front lands at 56-60 John Street and three back lands at 62 John Street.

5 (Mile-End Ward)—

(*a*) the back land at 80 Brook Street.

(*b*) two front lands at 114-126 Broad Street and the back land at 116 Broad Street.

(*c*) the three front lands at 60-74 Broad Street and 1-7 Summer Street.

(*d*) the three back lands at 12 and 20 East Rose Street and 17 St. Joseph's Place.

(*e*) the back land at 37 Soho Street.

(*f*) the back land at 48 Soho Street.

6 (Whitevale Ward)—

(*a*) the two front lands at 40-48 Stobo Street.

(*b*) the two back lands entered from 733 Gallowgate, the second of which fronts at 90-92 Whitevale Street; the tenement 86-88 Whitevale Street (left stair); and the tenement 94-100 Whitevale Street.

(*c*) the four back lands at 15 and 23 Glenpark Street.

7 (Dennistoun)—

the back land at 273 Duke Street.

2 (Parkhead)—Burgher Street Area—

the six front tenements from 9B to 27 Burgher Street and from 35 to 43 Burgher Street; also 3-5 M'Ewan Street, along with the tenements at 33 Burgher Street (formerly a back land).

1 (Shettleston and Tollcross)—Westmuir Street Area No. 1—

the twelve front tenements at 262-288 East Wellington Street, 1-13 Hart Street, and 261-301 Westmuir Street.

1 (Shettleston and Tollcross)—Westmuir Street Area No. 2—

the five front tenements entered from 1-5 Winning Row and 229-239 Westmuir Street; the four front tenements at 171, 175, and 187 Westmuir Street and 2-10 Backcauseway; and the side land at 10 Backcauseway.

SOUTH-EASTERN DIVISION.

Wards.	Address.	Number of Lands. Front.	Back.	Total.
27 (Gorbals)—	12-14 Rose Street, ...	1	—	1
	18, 20, 22 Rose Street, ...	1	—	1
	24, 26, 28 Rose Street, ...	1	—	1
	32, 34, 36 Rose Street, ...	1	—	1
	38, 40, 42 Rose Street, ...	1	—	1
	44, 46½, 48 Rose Street, ...	1	—	1
	50, 52, 54 Rose Street.	1	—	1
	58, 60, 62 Rose Street, ...	1	—	1
	165, 167, 169, 171 Govan Street,...	1	—	1
		9	—	9

SOUTH-WESTERN DIVISION.

Ward.	Address.	Number of Lands. Front.	Back.	Total.
28 (Kingston)—	147 Centre Street, north land, ...	—	1	1
	147 Centre Street, south land, ...	—	1	1
	2 Newfield Lane, ...	—	1	1
	4 Newfield Lane, ...	—	1	1
	45 Pollok Street (1 Jane Place),	—	1	1
	45 Pollok Street (2 Jane Place),	—	1	1
	45 Pollok Street (back land) (second from north). ...	—	1	1
	45 Pollok Street, north land, ...	—	1	1
	1, 2, 3, 24, 25, 26, 27 St. James' Terrace and 267 St. James' Street, ...	1	—	1
	4, 6, 8, 10, 12, 13, 14, 15, 16, 18, 20, 21, 23 St. James' Terr.,	5	—	5
	30 Ardgowan Place, ...	1	—	1
	36 Ardgowan Place, ...	1	—	1
		8	8	16

I further recommend that, in order to make the scheme to follow on the above representation efficient, the following properties should be included within such scheme :—

NORTHERN DIVISION.

17 (Cowcaddens Ward)—

(*a*) 1.—1 single-storey building used as a workshop and cellar, entering from 166-168 Port-Dundas Road.

(*b*) 4.—The buildings situated on the site of an old church, and used as a glass-work, store, and yard, numbered 114 Water Street and 366 Dobbie's Loan.

EASTERN DIVISION.

4 (Calton Ward)—

(*a*) the shops and business premises situated at 88, 94-96-98 London Street and 3-9 Charlotte Lane.

(*b*) business premises at rear of back land at 83 King Street.

(*c*) the business premises in back court at 89 King Street.

2 (Parkhead)—Burgher Street Area—

(*a*) vacant site in front of tenement at 33 Burgher Street and business premises at 5 M'Ewan Street.

1 (Shettleston and Tollcross)—Westmuir Street Area No. 1—

(*a*) business premises, front and back, entered from 288 East Wellington Street; also business premises entered from 293 Westmuir Street.

(*b*) all vacant ground within area bounded by East Wellington Street, Hart Street, Westmuir Street, and a line joining the west gables of the tenements at 261 Westmuir Street and 262 East Wellington Street.

1 (Shettleston and Tollcross)—Westmuir Street Area No. 2—

(*a*) business premises and vacant ground at 193 Westmuir Street.

A. S. M. MACGREGOR.

16th November, 1925.

A fourth scheme, which dealt with 1,019 houses (485 of one apartment, 497 of two apartments, 35 of three apartments, and 2 of four apartments), inhabited by 4,503 persons, was also the subject of a local inquiry by the Board's Commissioner during the month of May, 1927.

Details of the progress of both these schemes will be incorporated in subsequent reports, but meantime it is of interest to include, as illustrating the health conditions which prevail in congested areas, vital statistics relative to selected portions of

the 1927 Scheme which were submitted to the Commissioner along with other evidence:—

	Average of Years, 1921-25.		
	Coalhill Street Area.	Rumford Street Area.	City.
Acreage, ...	2·324	4·329	19,183
Number of Persons per acre, ...	322	326	57
Death-Rate.—All Causes per 1,000,	24·6	24·4	14·8
Do. Respiratory Diseases per 1,000... ...	6·1	6·1	2·7
Do. Phthisis per 1,000, ...	1·87	2·83	1·00
Infantile Mortality per 1,000 Births,	174	138	107

The effect of density and insanitary dwellings is reflected in the death-rates from all causes, including respiratory diseases, phthisis, and infant mortality.

Experience of improvement schemes has shown that there is usually one area in which strenuous opposition is brought by the owners. This is to be expected, as there is no scientific basis on which a house may be condemned as unfit for human habitation. There must always be houses on the border line of fitness as to habitability, and it is in such cases that differences of opinion arise.

HOUSING (SCOTLAND) ACT, 1925.

The inspection and issuing of notices for the repair of houses entails a large volume of work by the sanitary staff. While many factors look after their property in a satisfactory manner, there are others who pay little attention to their houses until compelled to do so. The following figures of defects dealt with do not reflect the whole of this work, as in a large number of instances minor defects and defects of a specific character are remedied under the nuisance clauses of the Public Health Act (see Sanitary Operations).

For the purpose of the Housing Acts 15,358 inspections were made during the year. The details as to inspections, notices issued, and defects found are as follows:—

Division	Inspections	Notices Issued	No. of Defects	No. of Houses Affected
Central, ...	1,590	114	427	214
Northern, ...	6.873	463	1.490	882
Eastern. ...	2.909	278	991	593
South-Eastern,	2.228	242	1,175	702
South-Western,	1,758	207	432	203
	15,358	1,304	4,515	2,594

Following on these inspections, 1,304 notices calling for repairs were issued in terms of Section 3 of the Housing (Scotland) Act, 1925, these notices covering 4,515 separate defects in 2,594 houses.

Failure to implement the statutory notices occurred in 98 instances, and in respect of these authority was obtained to remedy the defects complained of, and to charge the owner with the cost of repairs. The actual work of repair was carried out by the Master of Works on behalf of the department, and the following table summarises the cases dealt with according to divisions:—

SENT TO MASTER OF WORKS TO EXECUTE REPAIRS.

Division	Notices Issued	No. of Defects	No. of Houses Affected
Central, ...	10	33	19
Northern, ...	39	122	69
Eastern, ...	13	43	31
South-Eastern, ...	—	—	—
South-Western, ...	36	74	35
	98	272	154

RENT AND MORTGAGE INTEREST RESTRICTIONS ACTS, 1920 AND 1923.

Applications for Certificates by Tenants.—During the year 49 applications for certificates, in terms of Section 2 (2) of the principal Act, were received, compared with 59 for 1925. Of these, 9 were refused and 40 granted, 28 of the latter being in respect that the houses affected were not in all respects reasonably fit for human habitation, and 12 in respect that the houses were not in a reasonable state of repair.

The following summary shows the distribution of the applications throughout the several administrative divisions, and gives comparative figures for each year since the Act came into operation:—

Glasgow, 1926.—Applications for Certificates under Section 2 (2) of the Increase of Rent and Mortgage Interest (Restrictions) Act, 1920.

Division.	Refused.	Granted in respect that Houses were (1) Not in all respects reasonably fit for human habitation.	(2) Not in a reasonable state of repair.
Central, ...	1	2	2
Northern, ...	5	—	7
Eastern, ...	2	14	2
South-Eastern, ...	1	8	—
South-Western, ...	—	4	1
City, ...	9	28	12
		40	

	Refused.	Granted in respect that Houses were (1) Not in all respects reasonably fit for human habitation.	(2) Not in a reasonable state of repair.
1920 (Oct.-Dec.),	147	263	459
1921	97	154	180
1922	10	2	8
1923	75	180	160
1924	21	83	69
1925	16	15	28
1926	9	28	12

Applications for Reports by House Factors and Owners.—In Section 5 (2) of the 1923 Act it is provided that where a certificate has been issued by the Sanitary Authority in accordance with the provisions of Section 2 (2) of the principal Act of 1920, and the house factor or owner afterwards executes the repairs required to put the house into a reasonable state of repair, he shall be entitled to receive a report to that effect on making application to the Sanitary Authority, and on payment of a fee of one shilling.

Two such applications were received during the year, and the following summary shows how they were dealt with :—

Glasgow, 1926.—Applications for Reports by House Factors or Owners under Section 5 (2) Rent and Mortgage Interest Restrictions Act, 1923.

Division.	Applications Granted.	Refused.
Central, ...	1	—
Northern, ...	1	—
	—	—
	2	—
	2	
1925	5	—
1924	29	1
1923	6	—

SECTION XI.

BACTERIOLOGICAL DEPARTMENT.

Report by Dr. R. M. Buchanan, City Bacteriologist.

The diagnosis of diseases of bacterial origin and the solution of problems associated with their prevention and treatment become year by year more dependent on the practical application of laboratory methods. This growing intimacy between the science of bacteriology and preventive medicine is in some measure reflected in an increase of over 3,000 specimens received from the medical practitioners and the Health Department of the City during 1926.

The Bacteriological Department has now been in operation since 1899, and the varied nature of its work (embracing 31,086 examinations) in the past year may be summarised under the following categories, and thereafter reviewed in more detail:—

1. *Early Diagnosis of Suspected Cases of Infectious Diseases.*—These cases provided the largest part of the routine work of the laboratory. The specimens submitted had relation to such diseases as pulmonary tuberculosis, diphtheria, ophthalmia neonatorum, venereal diseases, typhoid and paratyphoid fever, bacillary and amœbic dysentery, infective jaundice, cerebro-spinal fever, tuberculous meningitis, pneumonia, anthrax, plague, and malaria. In many instances additional specimens were readily obtained when the materials submitted were insufficient for diagnostic purposes. Contacts with cases of typhoid fever, diphtheria, and cerebro-spinal fever also accounted for a large number of microscopical and cultural tests.

It is now recognised that this early diagnosis by laboratory methods plays a part of incalculable value in preventing the spread of these communicable and disabling diseases and in facilitating administrative procedure.

2. *Extended Examinations.*—A large part of the time of the medical staff was taken up by the more extended and specialised examinations which constantly arise in relation to obscure cases, sources of infection, rare diseases, and epidemic outbreaks. Each

one of these may be regarded as of the nature of an investigation implying technical skill and intimate experience of laboratory methods. Such examinations are often necessary, for example, (1) when organisms are found whose characters vary but little, yet somewhat definitely, from those of known pathogenic types; (2) when quite unfamiliar organisms are met with whose relation to known types may require extended work, and whose significance in relation to the cases of disease under investigation falls to be determined in the laboratory; and (3) when in the absence of forms of known pathogenicity consideration has to be given to possible variation in disease-producing power of forms usually reputed to be non-pathogenic.

In this work valuable assistance was given by the Medical Officer of Health, medical practitioners, and consultants from their intimate knowledge of the clinical conditions.

3. *Examination of Water and Milk Supplies.*—The City's water supply from Mugdock, Craigmaddie, and Gorbals Reservoirs, and as delivered from distributing pipes, has been under constant examination during the year as to purity and freedom from infective contamination.

The water in the swimming ponds of the public baths has also been examined bacteriologically at regular intervals. A commendable degree of purity in the water of the baths is attained and maintained by the filtering plants which have been installed.

The milk supply of the City and the City's hospitals has been subjected as formerly to bacteriological examination to determine its bacterial content as a measure of cleanness and purity or impurity, and to test its freedom from tuberculous or other infection.

4. *Biological Tests.*—Biological tests formed a part of the procedure for the detection of the tubercle bacillus in milk, pleural and cerebro-spinal fluids, sputum, and urine for the differentiation of human and bovine tuberculosis; for the diagnosis of anthrax, infective jaundice, and plague; and for ascertaining the virulence of organisms isolated (*a*) from diphtheria patients, carriers, and contacts, (*b*) from cases of puerperal fever, and (*c*) from outbreaks of food poisoning.

5. *Miscellaneous Examinations and Investigations.*—Most of the work subjoined under this heading does not lend itself to tabulation. These examinations are of constant occurrence, and include (*a*) specimens of blood for confirmation or otherwise of the better defined types of anæmia; (*b*) specimens of blood for delineation of the cellular content, with a view to assisting in the diagnosis of diseases which are associated with the particular cellular content found; (*c*) stomach contents from cases of achylia gastrica; (*d*) intestinal contents and urine, apart from enterica diseases and dysentery; (*e*) hair and skin for parasites; (*f*) tumours for malignancy; (*g*) insect and fungoid pests for identification; (*h*) disinfectants for efficiency; (*i*) work upon organisms encountered during food poisoning investigations, organisms other than the established types related thereto.

6. *Research.*—In connection with puerperal fever, dysentery, anthrax, typhus fever, and food poisoning investigations have been carried on in so far as the demands of routine work have permitted. Some of the results obtained are indicated in the paragraphs relating to these diseases.

TUBERCULOSIS—HUMAN.

Specimens of sputum in suspected cases of pulmonary tuberculosis were examined as to the presence or absence of the tubercle bacillus for the medical practitioners and for the medical officers in charge of the six tuberculosis dispensaries of the City. The medical practitioners accounted for 2,875 specimens, with a positive percentage of 16, while the dispensary service was responsible for 1,579 specimens, with a positive percentage of 15·7. In the past five years there has been a gradual decrease in the number of examinations for medical practitioners and a corresponding increase in those from the dispensaries.

Other morbid material, such as urine, cerebro-spinal, pleural and synovial fluids, and pus from gland and bone abscesses, amounted to 170 specimens for examination in relation to tuberculosis.

ENTERICA OR TYPHOID GROUP.

Specimens of blood, numbering 272, for the diagnosis of typhoid and the paratyphoid fevers, were sent in by medical practitioners, and a positive result was obtained in 28 cases (10 per cent.).

The low percentage of positive results consistent with previous years from so many persons exhibiting symptoms suggesting these fevers would appear to indicate that there is still another disease (or other diseases) in the enterica group not yet identified.

A large number of specimens of urine and fæces (784 from 392 persons), for examination for the presence of bacilli of the enterica group, were submitted by the Public Health Department and by medical practitioners. A positive result was reported in 28 instances. These specimens were from typhoid contacts and from patients convalescent from typhoid and the paratyphoid fevers.

DIPHTHERIA.

In this year a considerable increase is to be noted in the number of swabs sent in for the bacteriological diagnosis of diphtheria, there being 6,659 as against 5,891 in 1925. The presence of diphtheria bacilli was proved in 1,087, or 16 per cent. In 1925 positive results were recorded in 12 per cent.

In addition, the systematic examination of all persons in more or less intimate contact with cases of diphtheria (commenced in 1906) was carried on during the year, and 2,177 contact swabs were received at the laboratory, representing an increase of 1,178 as compared with the previous year. The percentage of positives in 1926 was 8·4, and in 1925, 2·8.

Tests for virulence were done in 97 instances, with bacilli isolated from nasal swabs, "contacts," and convalescent cases, and in 43 of these tests (45 per cent.) the organism proved to be virulent.

OPHTHALMIA NEONATORUM.

Notification of ophthalmia neonatorum was introduced on 1st August, 1911, and the services of the laboratory in the diagnosis of this destructive inflammation have been increasingly called for year by year. The examinations for the year included 762 specimens of exudate from the eyes of suspected cases, apportioned as under:—

Specimens from	Number	Positive
Medical Practitioners, ...	33	3
Medical Officer of Health, ...	729	87

The figures thus given do not represent the actual number involved, as in many of the cases several examinations were made.

ANTHRAX.

The principal investigations of the year concerned shaving brushes, and were in two series. The first series centred round a case of anthrax in man that occurred at Bury. 151 brushes were submitted, and these were so arranged that 90 representative brushes were actually examined. The number of tests involved was 26, each test comprising a small group of brushes, while three of these tests concerned unsuspected types of brushes. Six positive results were obtained.

The second series of examinations followed upon a fatal case of the disease in Glasgow in August. 50 brushes were examined by a series of 18 tests. Three of these tests gave a positive result, and are in addition to the positive result yielded by the patient's shaving brush.

In the first quarter of the year 20 samples of goatskin thongs, which had served as bindings for orange boxes, were submitted in two consignments to be tested for the presence of the anthrax bacillus. All the tests gave negative results.

PLAGUE.

In the great pandemic of plague, Glasgow shared to the extent of 28 cases in 1900. It is now sixteen years since a case was reported in the City, in the person of a seaman on board ship in the harbour.

Owing to the important part played by rats as transmitters of plague infection, a close scrutiny is kept year by year on those taken from ships and docks, and also from the City.

During the year 192 were examined, with negative results. This number was made up of Mus decumanus 81, Mus rattus 54, and Mus alexandrinus 57.

The relative proportion of males to females was noted as about 6 to 5.

TYPHUS FEVER.

A sample of blood from a suspected case of this disease was serologically examined, and gave a positive result establishing the diagnosis. This case was admitted to Belvidere Hospital at the end of July. During the course of further work with this

case an organism was found which possessed the cultural characters and the specific agglutinability of the Weil-Felix bacillus—an organism which although not the cause of the disease yet serves as a diagnostic agent.

It being known that positive Wassermann reactions may be obtained with the blood of patients at certain stages of this disease, there were carried out 23 Wassermann tests upon 8 persons who were being tended in Belvidere Hospital. The reaction was positive in 4 cases, and these cases, as well as the others, were tested at intervals until all were negative. This occurrence, namely, the disappearance of the positive phase, was found to have taken place for all cases between the fourth and the fifth week of illness.

INFECTIVE JAUNDICE.

The rat being regarded as the intermediary host and reservoir of infection in the spread of this disease, the rats brought to the laboratory in the course of the year have been examined for the infecting agent Leptospira ictero-hæmorrhagiæ. While the disease has been associated mainly with the common rat (Mus decumanus), all the rats submitted (192) have been included in the investigation, and no trace of the virus has been found.

VENEREAL DISEASES.

Wassermann Test.—The nature of the reaction in the Wassermann test is for the present not yet satisfactorily explained, but this does not detract from its great practical value in confirming, discovering, or excluding the disease.

During the year 9,748 specimens were examined by the Wassermann test, and comprised 9,633 specimens of blood and 115 specimens of cerebro-spinal fluids. Of the total number, 2,946 were duplicates, that is, from patients under treatment.

The sources of the specimens were as follows:—

1,621 were received from City Practitioners.

4,999 were received from Institutions.

2,185 were received from the Public Health Department.

966 were received from other Local Authorities under special agreement.

The percentage positive rate for specimens sent in for diagnosis was 22·1, while that for specimens sent from cases undergoing treatment was 52·95.

The Harrison method has been used in the routine examinations during the year, and continues to give satisfactory results.

Microscopical Examinations for Gonococcus.—During the year 917 specimens from cases, other than ophthalmia neonatorum, were examined for the gonococcus. Of these—

500 were from City Practitioners.
9 were from Institutions.
393 were from the Public Health Department.
15 were from Local Authorities.

The positive percentage of specimens taken for diagnosis was 18·2, and from patients undergoing treatment 25·9.

Microscopical Examinations for Spirochæta Pallida.—Syphilis being due to the invasion of the tissues by this organism, 19 specimens from lesions in suspected cases were submitted for its detection. Of these, 4 were positive.

PUERPERAL FEVER.

An investigation, begun with the object of finding out what proportion of patients attending the ante-natal clinics were harbouring in the genital canal during pregnancy, organisms that might be capable of giving rise to septic conditions, such as puerperal fever, at the time of confinement, was concluded.

In 26 out of the 59 cases examined—44 per cent.—streptococci were isolated from the swabs taken, and 3 of these 26 strains of streptococci proved to be highly virulent on experimental inoculation. This result would seem to support the idea that in some instances the source of the infecting organism in puerperal fever may be the patient herself. An indication was also obtained experimentally that some degree of immunity might be produced by the injection of toxins elaborated by certain strains of these streptococci.

A short paper dealing with toxins produced by these virulent streptococci was published by Dr. Madge E. Robertson in the *British Medical Journal* of 12th June, 1926.

An outbreak of puerperal fever having occurred in an institution, swabs were examined from the throats of all the members of the staff (18), several of whom had been suffering from tonsillitis. In 5 cases a streptococcus was found, which was identical in its characters with a streptococcus isolated from the genital canal of all but one of the puerperal fever patients examined. In two of the patients this organism was also found in pure culture in a localised abscess occurring during the course of the fever.

FOOD POISONING AND DYSENTERY.

From the small amount of material, relatively to previous years, submitted from suspected cases of food poisoning it would appear that the City was comparatively free from such trouble during the year. No cases were authenticated to be due to specific food poisoning organisms. In October a large outbreak, apparently connected with the milk supply, occurred in the County of Dunbarton, and the bacteriological work related to the outbreak was carried out in this laboratory. The causative organism (B. dysenteriæ Sonne) was found both in persons on a farm supplying milk and in village patients. A full account of the diagnosis was communicated by Dr. Wiseman to *The Lancet* of 16th April, 1927. This is the first record of the appearance of this organism in epidemic form in the West of Scotland.

With regard to other forms of dysentery, there was nothing in the form of epidemic occurrences in the City during the year, there being at most an occasional and isolated case of the flexner and the amœbic type.

THE MILK SUPPLY.

I.—In Relation to Bovine Tuberculosis.

1. *Milk from Town and Country Cows.*—During 1926 the Veterinary Surgeon submitted 273 samples of milk from cows with disease of the udder. 30 duplicates were also submitted. These samples were examined both microscopically and by the biological test with the following results:—

	Samples.	Tuberculous.	Percentage Tuberculous.
Town Cows, ...	244	3	1·2
Country Cows, ...	29	1	3·4
Duplicates, ...	30	2	6·6

II. *City Milk Supply.*—The examination of the City's milk supply as to the presence or absence of tubercle bacilli covered 204 samples during the year. The samples were taken by the Milk and Dairy Inspectors at railway stations and on arrival after road transport at consignees' premises. The results obtained were as follows:—

Samples.	Tuberculous.	Percentage Tuberculous.
204	4	1·9

III. *Hospital Milk Supply.*—The examination of the milk supply of the City's hospitals has been continued at regular intervals during the year. From six sources of supply 156 samples of the mixed morning and evening milk were taken fortnightly on arrival at the hospital. Of these samples, 12 were found to contain tubercle bacilli.

Samples of milk from individual cows in herds, from which the hospitals' milk supply was drawn, were examined for the detection of the animals supplying the infected milk. These samples were collected by the Veterinary Surgeon to the number of 604, and of these, 4 were found to contain tubercle bacilli.

These findings may be tabulated as under:—

	Samples.	Tuberculous.	Percentage Tuberculous.
(*a*) Mixed Milk, ...	156	12	7·6
(*b*) From individual cows,	604	4	0·6

SUMMARY OF RESULTS.

Source.	Samples.	Tuberculous.
Town Cows with Disease of the Udder, ...	244	3
Country Cows with Disease of the Udder, ...	29	1
City Milk Supply—		
From Railway Stations and Road Transport,	204	4
Hospital Milk Supply—		
(*a*) Samples taken at Hospitals consisting of mixed milk, ...	156	12
(*b*) Samples from individual cows, ...	604	4
	1,237	24

Other Local Authorities.

In addition to the above examinations, milk was biologically tested for three neighbouring Local Authorities with the following results:—

	Samples.	Tuberculous.
Local Authority (1), ...	16	1
,, ,, (2), ...	3	—
,, ,, (3), ...	3	1

II.—In Relation to Bacterial Content.

City Milk.—Milks coming into the City, and sampled at the railway and road transport stations, are examined for bacterial content. This year 204 such samples were examined as against 120 in 1925, and show an improvement in the general conditions. The following table presents the results obtained from these samples when compared with the standards of "designated" milks:—

	Number Examined	Samples below maximum of Certified Milk (30,000 per c.c.)	Samples below maximum of Grade A Milk (200,000 per c.c.)	Samples above 200,000 per c.c.
1926, ...	204	64 (31 %)	84 (41 %)	56 (27 %)
1925, ...	120	23 (20 %)	49 (41 %)	48 (40 %)

Hospital Milk.—The milk supply from six City hospitals is examined monthly as to bacterial content. This year the average agar count per c.c. in each supply shows an improvement on that of 1925, as may be seen from the accompanying table:—

	No. 1	No 2	No. 3	No. 4	No. 5	No. 6
1926, ...	161,416	137,538	28,333	34,250	59,083	47,250
1925, ...	633,153	1,599,307	433,846	141,692	63,384	211,615

In 1926 it will be observed that the average count is within the maximum of Grade A Milk (200,000 per c.c.).

Designated Milk.—The samples of designated milk examined this year numbered 151, an increase of 82 on those of 1925. Of this number, 141 samples were well under the maximum count allowed, and only 10 exceeded it.

MICROSCOPICAL EXAMINATION OF TISSUES.

Tissues from 14 patients were sent for microscopical examination during the year 1926. Diagnosis as to malignancy was desired in 12 tumour growths, and as to the presence or absence of tuberculosis in 2 fragments of tissue.

The specimens were submitted by general practitioners, City hospitals, and the Health Department.

BIOLOGICAL LABORATORY.

The tests carried out in the new biological laboratory during the year amounted to 1,451.

SUMMARY OF EXAMINATIONS FOR THE YEAR 1926.

The examinations performed in the Bacteriological Laboratory during 1926 numbered 31,086, as compared with 27,617 in the previous year. The sources of the materials submitted were as follows :—

	Medical Practitioners.	Health Department
Tuberculosis (Human)—		
Microscopical Examination—		
Sputum, ...	2,875	1,579
Urine, ...	79	23
Cerebro-Spinal fluid, ...	7	1
Pleural fluid, ...	5	1
Synovial fluid, ...	—	2
Pus from gland and bone abscesses, ...	9	44
Tissue, ...	1	—
Biological Test, ...	107	81
Tuberculosis (Bovine)—		
Milk—		
Microscopical Examinations, ...	—	1,267
Biological Test—		
Town Cows, ...	—	244
Country Cows, ...	—	19
Herds supplying Hospitals, ...	—	620
Duplicate Samples for Confirmation, ...	—	20
City Milk Supply—Station Samples, ...	—	204
Samples from Hospitals Milk Supplies, ...	—	156
Typhoid and Paratyphoid Fever—		
Blood (agglutinations), ...	409	31
Urine, fæces (cultures), ...	137	646
Shell-fish, ...	—	13
Diphtheria—		
Throat Swabs from suspected cases, ...	6,659	323
Throat Swabs from contacts, ...	—	2,177
Virulence Tests, ...	48	16
Vincent's Angina—		
Throat Swabs from suspected cases, ...	26	—
Cerebro-Spinal Fever—		
Cerebro-Spinal fluid, ...	5	—
Post-nasal Swabs, ...	—	9
Ophthalmia Neonatorum, ...	33	733
Anthrax—		
Goatskin bindings of orange boxes, ...	—	20
Shaving brushes, ...	—	201
Plague—		
Examination of rats from Ships, Docks, and City, ...	—	192

	Medical Practitioners.	Health Department.
Typhus—		
Serum Test (Weil-Felix), ...	4	5
Do. (Wassermann), ...	—	23
Infective Jaundice—		
Material from Patients, ...	1	5
Examination of rats from various sources in the City,	—	192
Venereal Diseases—		
Wassermann Test, ...	7,586*	2,162
Gonococcal Infections other than Ophthalmia Neonatorum, ...	524	393
Spirochæta pallida, ...	19	—
Specimens taken in Laboratory, ...	17	9
Puerperal Fever—		
Cultural Tests (outbreak in an Institution), ...	--	18
Ante-natal investigations, ...	—	59
Protozoal and Fungoid Diseases—		
Malaria, 9; Dysentery, 54; Ringworm, 4, ...	46	21
Bacterial Diagnosis (various Diseases)—		
Sputum, 5; pus, 38; fæces, 37; miscellaneous, 42, ...	79	43
Food Poisoning—		
Examination of Food-Stuffs, ...	—	14
Water—		
Bacterial Content	14	—
Milk (Bacterial Content)—		
Under Milk (Special Designations) Order, ...	—	151
City Milk Supply, ...	—	204
Hospitals Milk Supply, ...	—	156
Other Local Authorities, ...	18	—
Blood—		
Cytological examination by smears, ...	6	10
Blood Count, ...	—	16
Bacterial Content by Culture, ...	1	2
Research on condition of blood in rachitic children,	--	16
Chemical Examinations—		
Urine, ...	6	11
Preparation of Vaccines, ...	6	—
Insect Pests from Dwelling-houses and Workshops, ...	—	17
	18,727	12,149
	30,876	
Water Department—		
Tap Water, ...	34	
Reservoirs, ...	50	
	—	84
Baths Department—		
Water from Swimming Ponds, ...		126
		31,086

*This number includes 6,605 from the City and 981 from outside Authorities.

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SECTION XII.

PART I.

FOOD POISONING.

Cases of alleged food poisoning are brought to the notice of the department from time to time, but these are not always capable of being verified by bacteriological examination, owing to the difficulty of obtaining samples of all the articles partaken of. In many cases there is no *prima facie* evidence that food poisoning had contributed in the illnesses reported. The following is a summary of cases inquired into:—

On 17th February complaint was made of an alleged illness following the eating of marzipan fruits, a sample of which was found negative for poisoning or harmful ingredients; a fungus which was observed on one specimen of the original purchase by the family concerned proved to be a harmless aspergillus. The cause of the rash which was present on two of the family was not determined.

Information was obtained from the Press on 9th March that members of a family in the Northern District had been admitted to the Royal Infirmary suffering from alleged food poisoning. The family consented of ten persons. The parents, girls of 15, 7, and 5, and a boy of 3 years were affected. The symptoms complained of were headache and vomiting, abdominal pains and diarrhœa, although these were not all present in each instance. The mother was most seriously affected. She had a rapid pulse, a temperature of 101, badly furred tongue, and seemed semi-comatose. No samples of sausages, ham, or mince, which had formed part of the previous day's meals, could be obtained. All these patients had recovered by 11th March.

On 22nd July, illness, alleged to be associated with the consumpt of shell-fish purchased in a shop in the East End, was reported. Two of the members of the family out of four who consumed the whelks became suddenly ill, turning rigid and unconscious. One of them, aged 6 years, was removed to Belvidere Hospital, where a positive swab for diphtheria was obtained. The shell-fish were collected in Gareloch and Loch Long.

Meat pies were the alleged cause of illness of a man in Govan. The meat of the pie in question, together with five others, was found to be covered with green mould. Bacteriological examination for food poisoning organisms was negative.

Meat was also the alleged cause of another illness in the East End, but this was also negative.

Sickness was stated to have resulted from the eating of a sausage roll by a man in Maryhill, but nothing injurious was found.

Ptomaine poisoning was stated in the newspapers to be the cause of illness of a family in Govan, of which one member, a woman of 55 years, had died suddenly during the night. The other three were removed to the Victoria Infirmary. Part of a steak pie, which had been eaten previous to the illness, together with others from the shop from which it had been purchased, were examined, but found negative for pathogenic organisms.

Arsenic in Apples.—The presence of arsenic in consignments of apples shipped here from America is referred to in Section IX, dealing with the work of the Port Local Authority.

OPERATIONS UNDER THE SALE OF FOOD AND DRUGS ACTS, &c.

The Sale of Food and Drugs Acts.—For the purposes of these Acts a total of 5,031 samples were examined, of which 3,586 were informal or test samples and 1,445 official or statutory samples. 175 of the former and 56 of the latter were deemed to be non-genuine. Proceedings were initiated in respect of 31 of the official or statutory samples adversely reported upon. There were also two prosecutions in respect of margarine contraventions, and one in respect of the failure of a milk dealer to display name and address on vehicle. The total fines and expenses imposed under these Acts amounted to £163 0s. 6d.

Further details of operations are contained in subjoined abstract and tables and in the appendices.

Standards and Grading.—During the year representations were made by the Corporation to the Scottish Board of Health :—

(1) That effect should be given to the recommendations of the Inter-Departmental Committee on Milk, relative to the establishing of a legal standard of fat and solids not fat in milk, in lieu of the present presumptive limits; and also with regard to the standards recommended for cream and buttermilk.

(2) That the grades of milk to be sold for human consumption should be limited in the meantime to three, viz. :— "Certified," "Grade 'A' (Tuberculin Tested)," and "Pasteurised."

The Board subsequently intimated that they were considering the preparation of a Bill embodying the proposals of the Inter-Departmental Committee. They further stated that the nomenclature of milk grading had been under consideration, but that there were difficulties in the way of securing designations that would be satisfactory to all concerned. It appeared to them, however, inadvisable to disturb the existing designations until some classification that was likely to be permanent could be made.

Sampling.—A matter of some significance arose in connection with a prosecution against a trader, in which a contra-analysis showing the sample to be genuine was submitted in defence. The subsequent analysis of the reserve portion of sample by the chemists of the Government laboratories was found to be in complete accord with that for the prosecution, and, on the evidence led, conviction followed, a smart penalty being imposed. On the date of the offence more than one sample had been obtained from the respondent (the others being genuine), and the suggestion for the defence that a confusion in respect of labelling had occurred was negatived, to the satisfaction of the Court, by the evidence led as to the invariable practice pursued in dealing with a sample subsequent to purchase. The only inference to be drawn from the case was that the adhesive labels on the portions of samples left with respondent, in terms of the statute, had been transferred, and to obviate this possibility in future the practice has now been introduced to include the label in the sealing of the sample.

Diluted Spirits.—In connection with a number of prosecutions of licence holders for the sale of spirits weaker than 35° u.p., whose licences came under review in respect thereof at the annual Licensing Court in April, 1926, it was intimated by the Chairman that, while the Court did not wish to interfere with the question of offences under the Sale of Food and Drugs Acts, they were of opinion it was difficult to ensure that a customer was clearly aware of the strength of the article which he was purchasing, and it was therefore desirable that holders of licences should consider adopting the practice of selling at the strength specified under Section 10 of the Licensing Act, 1921.

Excess Water in Butter.—Excess water in Irish butter has been marked of recent years and at certain seasons. This in particular has been associated with what is known as firkin butter. A sample of Irish Free State produce, purchased in August in ordinary course, was found to contain 7·55 per cent. of water in excess of the limits of 16 per cent. imposed by the Sale of Butter Regulations, 1902. A sample of a further consignment as received by the dealer was subsequently taken at quay-side, and showed the presence of 4·88 per cent. of excess water. The Procurator-Fiscal was, however, of the opinion that we were unable to proceed against the consignor owing to lack of jurisdiction.

It appears that butter consigned from the Irish Free State, in virtue of its new status, now falls to be treated as an importation to the United Kingdom, in terms of Section 1 of the Sale of Food and Drugs Act, 1899, as amended by Section 5 of the Butter and

Margarine Act, 1907. Accordingly, all sampling and subsequent proceedings which are thereby authorised against the importer entirely devolve upon the officers of the Commissioners of Customs. There is reason to believe that there is a considerable traffic in this class of butter, which is gathered from small farmers in Ireland, and repacked by merchants there into firkins for export, without any attempt to ascertain its compliance with the limits for water content, as is invariably done in the case of creamery butter prepared in factories under the control of the Board of Agriculture and Technical Education.

The circumstances, as disclosed, were reported to the Scottish Board of Health for their information and subsequent action.

Cod-Liver Oil Emulsions and Mixtures.—The question of the composition of cod-liver oil emulsions and malt extracts with cod-liver oil mixtures, as usually sold, has been under review arising out of analyses of samples during the year. The matter was previously under consideration in 1920-1, when a sample of malt extract with cod-liver oil was found to contain only 2·82 per cent. of oil, which it was believed was not exceptional. As the British Pharmacopœia is the only accepted standard of composition in respect of drugs as purchased by the ordinary consumer, it was deemed, in the absence therein of any reference to cod-liver oil emulsions or mixtures, that no *prima facie* case was disclosed. Representations were then made to the Scottish Board of Health and the Pharmaceutical Society of Great Britain as to the desirability of including standards for these commodities in any new edition of or addendum to the British Pharmacopœia. Assurance was subsequently given by the Board that the matter would receive the careful consideration of the General Council for Medical Education and Registration.

The reason for putting on the market emulsions or mixtures with low percentages of oil is said to be to meet popular taste, because with higher percentages its palatability and digestibility are thereby lessened. Nevertheless, no good reason can be adduced why these variations should not be standardised and the approximate percentage of oil present declared on the label.

A new edition of the British Pharmacopœia is believed to be under weigh, and it is hoped that this matter will be definitely dealt with.

14 samples in all of cod-liver oil and emulsions and mixtures were examined. Appended are the analyses of the emulsions and mixtures :—

ANALYSES OF SAMPLES OF COD-LIVER OIL EMULSION.

Nos.	2768	2769	2770	2817	2859	2860
	%	%	%	%	%	%
Oil, ...	25·13	29·57	51·05	23·21	34·12	45·10
Calcium Hypophosphite, ...	·62	·85	·78	·74	·89	1·24
Sodium do., ...	·23	·09	·30	Nil	Nil	Nil
Vitamine "A,"	Present	Present	Present	Present	Present	Present

Analyses of Samples of Extract of Malt and Cod Liver Oil.

Nos.	2941	3014	3015	3016
By Weight—	%	%	%	%
Moisture, ...	23·40	18·74	21·38	21·60
Cod-Liver Oil, ...	11·38	12·51	7·88	2·94
Dry Malt Extract, ...	65·22	68·75	70·74	75·46
	100·00	100·00	100·00	100·00
By Volume—				
Cod-Liver Oil, ...	15·91	17·60	11·20	4·33
Malt Extract, ...	84·09	82·40	88·80	95·67
	100·00	100·00	100·00	100·00
Vitamine "A,"	Present	Present	Present	Present

Abstract of Total Samples Examined during 1926.

Article	Informal Taken	Informal Non-Gen.	Statutory Taken	Statutory Non-Gen.	Percentage Adulterated Inf.	Percentage Adulterated Stat.	Percentage of Samples taken in each Group to Total. Inf.	Percentage of Samples taken in each Group to Total. Stat.
Milk and Cream, ...	2.126	119	932	37	5·6	4·0	59·3	64·5
Milk Products (Butter, Cheese, &c.), ...	595	19	176	5	3·2	2·8	16·6	12·2
Cereals, &c., ...	11	—	38	—	—	--	·3	2·6
Spirituous Liquors,	223	17	56	6	7·6	10·7	6·2	3·9
Drugs, ...	383	17	47	6	4·4	12·8	10·7	3·3
Flavourings and Condiments.	70	1	78	—	1·4	—	1·9	5·4
Miscellaneous Foods,	178	2	118	2	1·1	1·7	5·0	8·1
Totals,	3,586	175	1,445	56	4·9	3·9	100·0	100·0

Abstract of Informal and Statutory Samples of Sweet Milk Examined during 1926.

Informal: Number Taken	Informal: Number Presumed Non-Genuine	Informal: Average Percentage Composition Fat %	Informal: Average Percentage Composition Non-Fat %	Month	Statutory: Number Taken	Statutory: Number Presumed Non-Genuine	Statutory: Average Percentage Composition Fat %	Statutory: Average Percentage Composition Non-Fat %
192	17	3·35	8·91	January,	80	1	3·42	8·83
168	9	3·31	8·84	February,	70	6	3·31	8·83
190	19	3·30	8·83	March,	75	6	3·34	8·80
175	15	3·40	8·75	April,	79	5	3·36	8·76
185	13	3·38	8·76	May,	76	6	3·40	8·72
169	10	3·33	8·89	June,	83	1	3·40	8·88
145	7	3·44	8·80	July,	76	3	3·43	8·72
162	2	3·54	8·74	August,	77	4	3·49	8·72
181	6	3·59	8·82	September,	86	1	3·65	8·80
160	5	3·69	8·83	October,	77	—	3·67	8·80
156	10	3·53	8·84	November,	66	1	3·60	8·83
187	5	3·50	8·80	December,	78	3	3·53	8·71

Colouring Matter in Milk or Cream.—Of the total milk and cream samples examined, only one sample of sweet milk was adversely reported upon as containing annatto. In the previous year 13 offences of this nature were reported to the Procurator-Fiscal, and it would therefore appear that this form of camouflage has been finally eliminated.

Preservatives in Food.—A total of 3,030 samples of milk and cream were examined, and, with the exception of 4 samples, all were found to be free from preservatives. The latter consisted of 2 samples each of milk and cream, and contained boric acid ranging from ·003 to ·15 per cent. 17 samples in all of sponge fingers, biscuits, and cakes, not exceeding 2d., were procured from different makers, and all, upon examination, found to be free from boric acid.

On examination of 31 samples of meat preparations in common use, none contained boric acid, but all (with one exception) contained preservatives in the form of sulphites; in no instance, however, did the proportion, expressed as sulphur dioxide, exceed the new prescribed maximum of 450 parts per million.

The Public Health (Preservatives, &c., in Food) Regulations (Scotland).—These mark the end of a long trail, and regularise the conflicting views of experts and the varying decisions to be found in case law on the use of preservatives and colouring matter; manufacturers, traders, and Local Authorities are now in no uncertain position as to their responsibilities and powers. The regulations became operative on 1st January, 1927, with the following exceptions (reference to their scope and object is contained in the report of 1925):—

(*a*) In the case of bacon, ham, egg-yolk, and articles of food containing preservative introduced by the use, in their preparation, of preserved margarine, as from 1st July, 1927.

(*b*) In the case of butter, cream, and articles of food containing preservative introduced by the use, in their preparation, of preserved bacon, preserved ham, preserved egg-yolk, or preserved creams, as from 1st January, 1928.

(*c*) In the case of articles of food containing preservative introduced by the use, in their preparation, of preserved butter, as from 1st July, 1928.

The effects of the regulations will, as was foreseen, lead to the more extensive use of refrigeration, and so far as the wholesale trade is concerned this has been largely discounted by the increase in recent years of cold storage accommodation throughout the country, which it is believed is presently in excess of requirements. Adjustments in retail trading methods will, however, be necessary in respect of the principal articles of food affected by the regulations, if subsequent deterioration in course of distribution and sale and before consumption, with consequent loss, is to be obviated and the potential danger to the consumer eliminated. These limitations have to some

extent been recognised, in that certain articles of food in common use may still contain one or either of the permissible preservatives—sulphur dioxide and benzoic acid—in specified quantities, with due disclosure of the fact by label thereon or on wrapper or container, and clearly visible; or, alternatively, in the case of retail sales, by the exhibition in a conspicuous place of a notice thereof so as to be easily readable by a customer to whom delivery is at the same time made. These articles are—

sausages, sausage meat, and mince (*i.e.*, butcher meat minced)—450 parts sulphur dioxide per million, but in the case of mince only during the months of June to September;

coffee extract—450 parts benzoic acid per million;

pickles and sauces—250 parts benzoic acid per million; and

grape juice and wine, where the proportion of benzoic acid exceeds 600 parts per million, with further disclosure that they are not intended to be used as a beverage.

The provisions *re* disclosure do not apply to sales for consumption on the premises.

Condensed and Dried Milks.—In terms of the respective regulations of 1923, 28 samples of different brands of condensed and evaporated milks and 10 of dried milks were procured and examined. With the exception of 2 dried milks, all were found to conform to composition and labelling as required by the regulations. In the case of the latter, both samples were slightly below their declared equivalents, and the matter was brought to the notice of the manufacturers.

Milk (Special Designations) Orders.—The details of licences as at end of 1926, with comparative figures for 1925, are as undernoted:—

	1926	1925
Certified—		
Producers, ...	1	—
Dealers, ...	25	19
Total Average Daily Sales (Gallons), ...	95	53
Grade "A" (Tuberculin Tested)—		
Producers, ...	—	—
Bottling Establishments, ...	2	2
Dealers, ...	137	10
Total Average Daily Sales (Gallons), ...	730	207
Grade "A"—		
Producers, ...	—	—
Bottling Establishment, ...	1	1
Dealers, ...	37	25
Total Average Daily Sales (Gallons), ...	†425	*350
Pasteurised—		
Pasteurising Establishments, ...	3	3
Dealers, ...	12	9
Total Average Daily Sales (Gallons), ...	500	620

† 400 Gallons are Pasteurised. * 340 Gallons are Pasteurised.

As will be observed, there has been a marked increase in the number of dealers in Grade "A" (Tuberculin Tested) Milk, while progress, though slow, has been continuous in the sales of other grades, with the exception of "Pasteurised," in which there is a distinct regression. There would appear to be no real demand for "Pasteurised" milk as such on the part of the consumer, which is largely due to the fact that it was fairly well known and recognised that the great mass of the milk consumed in Glasgow was for long (prior to the Order and the legalisation of the term) pasteurised according to the then recognised methods, although not subsequently sold or purchased under that term. The majority of distributors (as has been referred to in previous reports) have now adopted the low temperature "Positive Holder" system of pasteurisation, but without any desire to obtain licences.

To the average consumer the variety and nomenclature of the various grades are involved and undoubtedly confusing; for instance, Grade "A" almost invariably appeals to him as the highest grade obtainable. Their simpler codification, either alphabetically or numerically, or by a combination of both, is eminently desirable.

During the year a total of 151 samples of designated milks were procured and examined to ascertain their conformity with the Orders, and a tabular statement of the results thereof is appended :—

Results of Examinations of Designated Milks.

Designation and Requirements	Number examined	Agar Count per C.C.					Coliform Bacilli		Fat Minimum (3·5 %)		Average Fat Content
		Number conform to count	Number exceeding count	Lowest	Highest	Average of Total Samples	—	+	Number above	Number below	
Certified— Bacteria not to exceed 30,000; Coliform absent in $\frac{1}{10}$ c.c.; Fat not less than 3·5 per cent.	39	37	2	400	86,750	7,721	37	2	37	2	3·90
Grade "A" (Tuberculin Tested)— Bacteria not to exceed 200,000; Coliform absent in $\frac{1}{100}$ c.c.; Fat not less than 3·5 per cent.	62	58	4	500	1,782,000	81,239	35	27	46*	6	3·88
Grade "A"— Requirements are as for Grade "A" (Tuberculin Tested).	12	12	—	6,500	38,900	17,408	11	1	8	4	3·56
Grade "A" (Pasteurised)— Requirements are as for "Certified."	14	13	1	900	32,000	9,168	14	—	8	6	3·51
Pasteurised— Bacteria not to exceed 100,000 (No Coliform test prescribed.)	24	21	3	900	258,400	39,550	10	14	(None prescribed)		3·54

* 10 of the total samples were not examined as to fat content.

Tubercle, &c., in Milk.—A total of 204 samples of milk from consignments, as received by City dairymen from farmers, were submitted to biological examination. Four samples revealed the presence of tubercle bacilli, equivalent to 1·96 per cent., compared with a like total examined in 1925, all of which were found to be negative. Subsequent inspection revealed an affected animal in each of two herds, and these were removed and slaughtered. Investigations of the other two herds were attended with negative results.

The samples were likewise examined as to their bacterial count, apart from tubercle, and the results thereof are shown in table appended :—

STATEMENT OF RESULTS OF EXAMINATION FOR BACTERIA OF FARMERS' SUPPLIES AS RECEIVED BY DAIRYMEN.

	Average Number of Bacteria per c.c.					Coliforms in $\frac{1}{100}$ c.c. (2 days)	
Number examined	Under 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	—	+
204	120	29	30	7	18	92	112

Continuous improvement in the cleanly production of milk is evidenced in the above figures compared with the previous year, and acknowledgment is made of the cordial co-operation of the officials of the producing areas, who are, from time to time, advised of the results of examinations with a view to such action as they may deem proper. As shown, 149 of the total samples, or over 73 per cent., were within the Grade "A" count for bacteria, compared with 60 per cent. in the previous year. Of those with counts of less than 100,000, 64 samples, or over 53 per cent., were below 30,000 ("Certified" count), as against 41 per cent. in 1925.

Hand versus *Machine Milking.*—With a view to determining the comparative results with regard to cleanliness in production in the case of hand milking as against machine milking, samples produced under approximately similar conditions were obtained and submitted to bacteriological examination. The same animals and employees were utilised throughout, and the results are appended. These, however, do not appear to be of a very conclusive character, although any advantage would appear to be in favour of hand milking. The inherent difficulties associated with the cleansing and sterilisation of the rubber fitments associated with milking machines will doubtless always militate against their more general adoption.

HAND *versus* MACHINE MILKING.

	Number of Sample.	Date.	Sediment per litre before and after centrifuging.		Degree of Acidity.	Agar Count per c.c.	Coloforms		
			Before. c.c.	After. c.c.			1 c.c.	$\frac{1}{10}$ c.c	$\frac{1}{100}$ c.c.
Machine Milking,	I.	29/3/26	·034	·019	17	109,200	+	+	+
Do.,	II.	1/4/26	·019	·009	19	41,450	+	+	+
Hand Milking,	III.	6/4/26	·034	·022	17	46,900	+	+	+
Do.,	IV.	8/4/26	·045	·022	17	21,600	+	—	—

Sale of Food Order, 1921.—Inspections under this Order were maintained, and various minor contraventions with regard to labelling were noted, and warnings given. There were no prosecutions.

The Merchandise Marks Bill.—This Bill again appeared in new form, and has now been placed on the statute book under the title of "The Merchandise Marks Act, 1926." Its object is, as stated in the preamble, to require an indication of origin to be given in the case of certain imported goods. The provisions of the Act, as far as they relate to the sale and sampling of any imported goods being food-stuffs, including inspection of premises, are to be enforced by the Local Authority as an expense incurred in and for the purposes of the Sale of Food and Drugs Acts.

The only compulsory provision is in relation to imported goods bearing the name or trade mark of any British manufacturer or trader. In order that the Act may function in regard to other imported goods of any description, a public inquiry must first be held by a Committee appointed for the purposes of the Act on a reference made to it by the "appropriate department"—in the case of food-stuffs, the Board of Agriculture—which, in the first instance, must be satisfied as to the necessity for same on representations made to them from any of the interests affected. Important provisos are—

(1) that "imported goods" shall not include goods which, after importation, have undergone a substantial change by reason of the application to them of any treatment or process; and

(2) that the Act shall not apply to the sale of food-stuffs for consumption on the premises, nor to any food-stuffs that have since their importation undergone a process of cooking, curing, or preserving.

Butter and Margarine Acts.—During the year a total of 60 applications for registration as wholesale dealers in margarine were received, all of which, upon inspection of the respective premises, were recommended for certification. In the course of inspection and sampling in "butter factories," one sample was found to contain excess moisture, and the occupier was duly warned.

The nature and number of premises on the register at end of year were as undernoted:—

Manufacturer of Margarine, ...	1
Butter Factories, ...	20
Wholesale Dealers in Margarine, ...	269

Fertilisers and Feeding Stuffs Act, 1906.—A total of 29 samples of various cattle and poultry foods to which the Act applies were informally obtained and examined, all of which were found conform to description and declared constituents and their percentages.

The new Bill dealing with these matters has now become law under the title of "The Fertilisers and Feeding Stuffs Act, 1926." The Act is the final outcome of the exhaustive Reports of the Departmental

Committee, presented to the Minister of Agriculture and Fisheries in 1924, and of the subsequent Advisory Committee appointed thereon. In terms of a series of schedules, designations of fertilisers, and feeding stuffs to which the Act, either in whole or in part, is to apply are laid down, as well as particulars to be contained in a "Statutory Statement" of constituent parts to be furnished by sellers. Further lists are given of names of articles to which when sold an "Implied Definition" shall attach, as well as of ingredients which, if present in any feeding stuff, shall be deemed deleterious. Provision is made for the issue by the Ministry, conjointly with the Board of Agriculture for Scotland, of regulations prescribing, *inter alia*, the manner in which articles are to be marked (where required under the Act) and their nature, and the methods of sampling to be followed where statutory samples are obtained.

The Act is not to function earlier than 1st July, 1927, or such later date as may be appointed.

The new Act will undoubtedly ensure greater clarity as regards administration, as well as enhanced protection to purchasers of fertilisers and feeding stuffs.

Food Inspection, &c.—During 1926 a total of 13,915 inspections were made in markets, shops, and stores in connection with the detection of unsound or unwholesome food and the oversight of the conditions of storage. A total of over 204 tons of various food-stuffs were adjudged by the inspectors to be unfit for human food, and were destroyed or so dealt with as to preclude their use for human consumption.

Under the Public Health (Meat) Regulations (Scotland), 1924, there was one new application for certification of storage accommodation (which was granted), and one was withdrawn from the register owing to the discontinuance of the business, the total now on the register being 9, as in the previous year.

In connection with the inspection of food premises generally, due attention continues to be paid to their condition in respect of suitability, cleanliness, methods of storage, preparation, and sale. In connection therewith, 8 formal notices were served upon occupiers, and received due attention. The augmented powers in these directions deemed desirable, which have been before referred to, have been pressed upon the Board in virtue of the potential powers possessed by them under the Public Health (Regulations as to Food) Act, 1907, and are believed to be under their sympathetic consideration. Representations have also been made in the same quarter by certain trade organisations, and, although their viewpoint and approach is somewhat different, it is at least in the direction desiderated. The whole matter when examined in detail presents considerable difficulty, having regard to its manysidedness, if tangible benefit from legislative action is to obtain.

Dairies.—In terms of the Milk and Dairies (Scotland) Act, 1914, Commencement Order, 1925, re-registration and certification were duly completed in the course of last year, the total number of "Dairies" on the register at end of year being 1,596, compared with 1,523 in 1925—an increase of 73. Included in the total are 27

in respect of "premises" outwith the City, for which certification was granted for the sale of milk from a cart or other vehicle within the City, and 44 are of "Dairies" situated in the recently added areas. The terms governing registration have undoubtedly permitted the exaction of improved conditions of storage and sale of milk, so that a general improvement in these respects has been effected.

Advantage was further taken of the provisions of the statute as to limited registration, where it was deemed desirable, owing to the nature or amount of other articles sold, that bulk milk should not be kept, and to ensure that only bottled milk should be received and sold, the conditional certificate granted being endorsed to this effect. 236 applications were thus dealt with. On the grounds of unsuitability of the applicant, registration was refused in respect of one dairy byre and one milk shop; and, owing to unsuitability of premises, in the case of two dairy byres.

A total of 22,058 inspections were made, in connection with which 47 minor contraventions of the Act or regulations and of structural defects were dealt with and received due attention.

Milk and Dairies (Scotland) Order, 1925.—This Order, which became operative concurrently with the Milk and Dairies Act, while making obligatory in Scotland generally much that was already embraced in local bye-laws, at the same time made additional provision in three outstanding respects, viz. :—

(*a*) the elimination of the wooden milk vessel for other than buttermilk;

(*b*) the sealing (or locking) of vessels (other than bottles) containing milk and consigned by common carrier; and

(*c*) the preclusion of possession or use by dealers of milk vessels other than their own.

With the exit of the wooden milk vessel as from 1st January last the sealing of milk vessels now becomes a practical proposition—although, curiously enough, omitted in the later and corresponding English Order. From a careful reading of Article 15, the *locus* of offence in contraventions thereunder would appear to be the consignor's or producer's area, and that enforcement therefore in ordinary course devolves upon the appropriate Local Authority.

In the case of the misuse of bottles, it was early evident that the establishment of a can-and-bottle exchange was imperative; this was pressed upon the trade, and is now in being. Despite this provision and repeated warnings, it was found necessary to proceed against three milk dealers, each of whom was convicted, and fines of £6 11s. in all were imposed.

Byres.—The total byres for milch cows within the City now number 65—of which 34 are in the recently added areas—compared with 45 in 1925, a net increase of 20. Hitherto these premises have been licensed annually under the Cattle Sheds in Burghs (Scotland) Act, 1866, but are now embraced in the definition of "dairy" under the Milk and Dairies (Scotland) Act, 1914, and registered thereunder, in virtue of which the former Act ceases to apply. The total cows allowed in these premises, in terms of the bye-laws, is 1,400, and the

average number kept is 1,056. A satisfactory feature is the fact that there are now only four byres in which the animals are without grazing facilities, and these it is expected will be eliminated in the near future.

580 inspections of byres were made, and in a number of instances various improvements were requisitioned. The premises are now included under "Dairies." The details of occupancy of premises are subjoined :—

DETAILS OF CITY BYRES AS AT 31ST DECEMBER, 1926.

	With Grazing Facilities			Wholly Stall-Fed		
Cubic space per Cow	No. of Byres	No. of Cows Allowed	Average No. kept	No. of Byres	No. of Cows Allowed	Average No. kept
At 600 cubic ft.,	58	1,286	967	4	66	47
At 800 ,,	3	48	42	—	—	—
Totals,	61	1,334	1,009	4	66	47

Ice-Cream Shops.—The powers previously possessed by the Local Authority securing the control of these premises as milk shops within the meaning of the Dairies and Milkshops Order, 1885, were re-enacted in the Glasgow Corporation Order Confirmation Act, 1919, so as to bring them within the ambit of the Milk and Dairies (Scotland) Act—thus re-registration of all dealers has been effected. The total number on the register at 31st December, 1926, was 600, compared with 692 in the previous year, being a decrease of 92. In three instances registration was refused on the ground of unsuitability of premises. A total of 9,132 inspections were made, and 42 notices of minor breaches of the regulations, &c., were served. There were 3 prosecutions, one each in respect of failing to register, failing to cleanse floors daily, and drying body clothes in ice-cream premises. £9 in penalties were imposed.

The question of the possible presence of zinc in ice cream as commonly made has from time to time been considered, owing to the nature of the pails or vessels in which the "mix" is prepared and stored and the containers in which it is subsequently frozen. About 95 per cent. of the containers are made of plate zinc, 16 B.W.G., with galvanised iron plate base and scraper, and about 5 per cent. are of stainless steel. Plate zinc was the original metal used on the introduction of ice cream, and is said to retain its vogue owing to its high ductility, combined, it is averred, with better freezing results than obtains with containers of other metals. Samples of ice cream obtained during the year were found to contain metallic zinc, ranging from ·06 to ·16 of a grain per lb., a wholly negligible quantity. On the occasion of a previous examination the proportion found was from 0·07 to 0·63 of a grain per lb. The use of containers of stainless steel is nevertheless to be commended owing to its clean and presentable appearance. The greater cost alone precludes its more extensive use.

ALEXR. B. FINDLAY,
Senior Food Inspector.

29th April, 1927.

THE SALE OF FOOD AND DRUGS ACTS.

Table showing Nature and Number of Total Samples Procured and Examined during 1926.

Nature of Sample	Informal		Statutory	
	Number procured	Number non-genuine	Number procured	Number non-genuine
Acetic Acid, ...	—	—	1	—
Almonds, ground,	3	—	—	—
Arrowroot, ...	1	—	6	—
Barley, ...	—	—	2	—
Borax, purified,	32	2	7	1
Brandy, ...	4	—	—	—
Butter, ...	569	18	152	5
Cascara Sagrada,	35	2	4	1
Cheese, ...	16	1	24	—
Chocolate, ...	1	—	—	—
Cinnamon, ground,	23	—	22	—
Cocoa, ...	20	—	8	—
Coffee, ...	27	—	26	—
Cream, ...	22	1	4	—
Cream Cakes. ...	5	2	—	—
Cream of Tartar,	46	2	12	2
Custard, ...	—	—	1	1
Desiccated Cocoanut,	—	—	1	—
Dripping. ...	23	—	32	—
Egg Substitute, ...	1	—	1	—
Egg Yolk, ...	2	—	—	—
Emulsion of Cod-Liver Oil, ...	7	—	—	—
Epsom Salts, ...	17	—	—	—
Extract of Malt and Cod-Liver Oil,	4	1	—	—
Flour, ...	—	—	7	—
Flour, S.R.. ...	3	—	10	—
Flowers of Sulphur,	6	—	1	—
Gin, ...	13	—	—	—
Ginger, ground,	13	—	14	—
Glauber Salts, ...	1	—	—	—
Glycerine, ...	1	—	—	—
Gregory's Mixture,	31	—	—	—
Honey, ...	4	—	—	—
Ice-Cream, ...	6	—	—	—
Lard, ...	20	—	35	1
Lemonade, ...	1	—	—	—
Lemon Squash, ...	—	—	1	—
Lime Water, ...	3	1	1	—
Linseed, Crushed,	7	—	—	—
Liquorice Powder,	27	—	—	—

Nature of Sample	Informal		Statutory	
	Number procured	Number non-genuine	Number procured	Number non-genuine
Margarine, ...	7	—	16	—
Milk, evaporated,	2	—	—	—
Milk, condensed,	26	—	—	—
Milk, dried, ..	10	—	—	—
Milk, skimmed, ...	6	—	5	—
Milk, sweet, ...	2070	118	923	37
Mince, ...	4	—	—	—
Mincemeat, ...	3	—	—	—
Mustard, ...	6	1	10	—
Oatmeal, ...	2	—	4	—
Oil, almond, ...	6	—	—	—
Oil, camphorated,	59	2	7	1
Oil, castor, ...	1	—	—	—
Oil, cod-liver, ...	4	—	—	—
Oil, eucalyptus. ...	7	—	2	—
Oil, linseed, ...	1	—	—	—
Oil, olive, ...	26	—	5	—
Ointments, iodoform,	4	—	—	—
Paregoric, ...	12	—	—	—
Peas, ...	2	—	—	—
Pepper, black, ...	11	—	6	—
Pepper, white, ...	16	—	23	—
Raspberry Wine,	—	—	1	—
Rice, ...	3	—	6	—
Rum, ...	56	2	14	1
Rum and Coffee,...	1	—	—	—
Sage, ...	—	—	1	—
Sausages, ...	24	—	—	—
Seidlitz Powders,	2	—	—	—
Sponge Cakes, &c.,	17	—	—	—
Suet, shredded, ...	1	—	3	—
Sugar, ...	3	—	—	—
Tapioca, ...	2	—	2	—
Tartaric Acid, ...	25	2	5	—
Tea, ...	3	—	3	—
Tincture of Iodine,	18	5	2	1
Vinegar, ...	1	—	3	—
Whisky, ...	150	15	42	5
Wine of Iron Citrate.	1	—	—	—
Grand Totals,	3586	175	1445	56

The Sale of Food and Drugs Acts.

Details of Samples in which Proceedings were Initiated during Year 1926.

Number of Complaints	Nature of Sample and Alleged Offence	Number of Convictions	Amount of Fines imposed £	s.	d.	Number Dismissed or found Not Proven	Number Deserted Simpliciter	Number Withdrawn and Expenses Paid	Amount of Expenses Paid £	s.
17	Sweet Milk—Deficient in Milk-Fat, ...	16	105	0	0	—	1	—	0	0
1	Sweet Milk—Deficient in Milk solids other than Fat, ...	1	3	0	0	—	—	—	0	0
2	Sweet Milk—Deficient in Milk Fat and Milk solids other than Fat,	1	5	0	0	1	—	—	0	0
1	Butter—Contained Fat other than Milk-Fat,	1	10	0	0	—	—	—	0	0
1	Butter—Contained excess Water, ...	1	10	10	0	—	—	—	0	0
2	Margarine—Failing to label, ...	2	5	0	0	—	—	—	0	0
1	Lard—Contained Cottonseed Oil, ...	1	3	0	0	—	—	—	0	0
3	Whisky—Contained excess Water, ...	3	6	0	0	—	—	—	0	0
1	Rum—Contained excess Water.	1	3	0	0	—	—	—	0	0
1	Cream of Tartar—Contained Sodium Bicarbonate, ...	1	3	0	0	—	—	—	0	0
1	Cascara Sagrada—Deficient in Alcohol, ...	—	0	0	0	—	1	—	0	0
1	Camphorated Oil—Deficient in Camphor, ...	1	4	0	0	—	—	—	0	0
1	Borax—Contained Excess Arsenic, ...	1	5	0	0	—	—	—	0	0
1	Failing to have name and address of vendor on milk cart, ...	1	0	10	6	—	—	—	0	0
34		31	163	0	6	1	2	—	0	0

Abstract of Proceedings under other Acts.

Act, Order, or Regulation	Nature of Offence	Number of Complaints	Number of Convictions	Amount of Fines Imposed £	s.
Milk and Dairies (Scotland) Order, 1925, ...	Using milk bottles other than own, ...	3	3	6	11
Milk and Dairies (Scotland) Act, 1914, and Glasgow Corporation Order Confirmation Act, 1919,	Failing to Register, ..	1	1	4	0
Ice Cream Regulations, ...	Failing to cleanse floors daily,	1	1	3	0
Do.	Drying body clothes in ice cream premises, ...	1	1	2	0
		6	6	15	11

PART II.

AIR PURIFICATION—SMOKE ABATEMENT.

The year 1926 was abnormal, in respect that from the beginning of May till the end of November practically no coal was mined in Great Britain, and naturally this circumstance caused a serious shortage of coal and coke supplies throughout the country, both for industrial and domestic purposes. The effect was first felt by domestic users, and the enforced economical use of the stocks they had was at once reflected in an improving atmosphere. Later, as the warmer weather approached, rationing of supplies being resorted to and more dependence being put upon the gas cooker, the atmosphere still further improved. Most of the works were able to carry on till the Glasgow Fair holidays, but after that many of the bigger ones closed down, while others which resumed after an extended holiday had their fuel supplies very materially curtailed. The lessened number of active fires and furnaces resulted in such a diminution of the smoke output that Glasgow appeared a different city as its horizons widened out. This condition of things continued till well on in September, until imports of more smoky foreign coal and the use of oil in inefficient furnaces began to have their effects in a return to more usual atmospheric conditions.

Improvements.—Considering the dislocation of trade due to the above condition of things, the improvements made to furnaces towards smoke abatement, which came to our notice within the year, were fairly satisfactory. They included 3 additional steam boilers, installed to relieve the pressure on existing ones, and so make smoke prevention more possible; 18 mechanical stokers replaced hand-firing; 6 coal-fired furnaces were reconstructed for the use of Corporation gas. To these fall to be added 2 furnaces, adapted for the smokeless combustion of oil fuel, and a number of instances where anthracite or other smokeless fuel was substituted for ordinary coal.

Prosecutions.—Eight prosecutions were taken against firms issuing smoke in excessive quantities, and in each case a conviction was obtained, and fines, amounting in the aggregate to £15, were imposed. These cases were all taken in the early months of the year while there was still a free choice of fuel. More cases could have been taken, but it was felt to be unfair to proceed to prosecution when there was no free choice of fuel, and where inferior and often more smoky fuels had to be burned to keep the works going.

Noxious Vapours.—In the month of March persistent complaints were received from tenants in Crown Street and Kidston Street, South Side, alleging that bad smelling fumes were being permitted to escape from Dixon's Iron Works to the injury of the health of residenters in that neighbourhood. From investigations made in conjunction with the Divisional Sanitary Inspector for the South-Eastern District, it was concluded that the smells were due to the drenching with water of molten slag while running from the smelting furnaces, which drenching

disintegrated the slag and made it a more marketable commodity. To determine accurately what the vapour consisted of, two samples of air were collected opposite open windows at the top landings of No. 70 and No. 98 Kidston Street while the slagging operation was going on, and while white fumes were observed to emanate from the base of one of the blast furnaces.

These samples were analysed by the Corporation Chemist, who certified that No. 1 sample contained 3·9 parts of sulphur dioxide per 10,000 parts of air, and No. 2 sample, taken five minutes later than No. 1, contained 1·96 parts of sulphur dioxide per 10,000 parts of air, together with a trace of sulphuretted hydrogen. This compares with only a trace of sulphur compounds in ordinary air. These results established that the cause of the complaint was the operation of rapidly cooling the hot surface slag by a copious application of water, and information to that effect was sent to Messrs. William Dixon, Ltd., who made structural arrangements which drew off the vapours and passed them into an old disused gas main, and thence to a brick chimney stalk, 120 feet in height. There they were mixed with the hot gases from steam boilers, and, passing away at such an altitude, the smells ceased, and along with them the complaints also.

Complaints.—Notwithstanding the higher standard of attainment required of furnace users compared with former times, the number of complaints received of smoke from low chimneys in the vicinity of dwelling-houses seems to be increasing. This is not because there is more smoke emitted now than formerly—there is less—but is because people are better informed of the fact that they need not suffer in silence when objectionable smoke issues from short chimneys in close proximity to their dwellings.

There seems, however, to be a practical difficulty in administering Section 85 of the Glasgow Buildings Regulation Act, 1900, which controls the heights of chimneys connected with furnaces for commercial or manufacturing purposes in relation to dwelling-houses within the specified distance of 100 feet. All over the City chimneys are found connected with such furnaces which are not of the prescribed height, and in so close proximity to dwelling-houses that smoke of even medium density issuing is objectionable, and in many instances it is impracticable to raise the chimneys sufficently high to carry the gases over the complainer's building. In such circumstances, a change of fuel proves to be the easier practicable solution, and recommendations to use anthracite or coke, according to the conditions prevailing and the kind of furnace in use, were generally effective.

Steam Waggons.—The steam waggon again figures in the list of prosecutions for the year, and notwithstanding that it has consistently been contended that coke is a practical fuel for use in steam waggon boilers, it is found that users of such vehicles are slow to adopt it.

Soft steam coal, which generally contains round about 24 per cent. of volatile matter, is the fuel most favoured by them, but in ordinary

working steam coal makes a good deal of smoke. Recently a test was carried out, with the permission of a firm who use a number of such waggons, to demonstrate the suitability of "Kincole" for haulage work. The test occupied 11¼ hours, and included kindling the fire with wood and coke, after the week-end stop, and afterwards maintaining the furnace in condition for the day's work. The waggon with its trailer carried 7 tons each journey, and made four journeys, from Prince's Dock to Port-Dundas, *via* Craighall Road, a distance of 4½ miles, on an ascending gradient for the greater part of the way. Steam was kept up at an average pressure of 220 lbs. per square inch, without the least difficulty, and occasionally was blowing off, and it was demonstrated that the smokeless fuel was capable of doing all that the best steam coal could do in load-carrying capacity. As regards costs, the advantage was in favour of "Kincole" to the extent of 0·13 pence per mile traversed. Calculated in terms of ton-miles, the smokeless fuel cost 0·42 pence and the best steam coal 0·45 pence, with "Kincole" at 35s. 4d. and steam coal at 41s. per ton delivered, the then current prices. Both fuels have, however, fallen considerably in price since the tests were made.

Lectures on Smoke Abatement.—At the request of the Education Authority of Glasgow, three lectures on Fuel Combustion and Furnace Management, with particular reference to Central Heating, were given to fully 200 school janitors in the Stow College, Cowcaddens, on three evenings in June. A second and more extensive series of eight lectures on the same subject was given at the request of the Chief Sanitary Inspector of Edinburgh to the members of his staff in the Sanitary Chambers, Edinburgh, beginning on 23rd September, and continuing till 11th November. The lectures in both cases were fully illustrated by wall charts.

Smoke Abatement League Classes.—The evening classes for instruction of steam-boiler firemen and works' engineers in the principles of coal combustion and furnace management, held under the auspices of the Glasgow and West of Scotland Branch of the Smoke Abatement League of Great Britain, were continued during the winter session 1926-27, which was the eleventh session since their inauguration in 1910. Two classes were carried on during the session, at each of which twelve lectures were given. They met fortnightly on alternate weeks in the new City Chambers, and facilities were granted for attendance at either or both classes on payment of a single fee of 2s. 6d. Forty men enrolled, notwithstanding that the classes began in the fifth month of the coal stoppage, and the average attendance during the session was 92 per cent., while twenty-seven men attended the full twelve lectures, and so qualified for full attendance certificates.

To the class examination, held at the close of the session, eighteen men came forward to compete for the three prizes given to each class and to qualify for merit certificates, and eleven of them reached the 70 per cent. standard of marks required for the latter.

The fee is very generally paid by the men's employers, and this is as it should be, because while the classes are primarily for instruction in methods of smoke prevention, considerable attention is also given to furnace efficiency, which means the elimination of unnecessary heat losses.

Soot-Collecting Gauges. — The dust and soot-fall from the atmosphere during 1926, as indicated by the nine rain deposit gauges situated throughout the City, was 275·88 tons per square mile. This shows a slight increase compared with the previous year, notwithstanding that for five of the seven months of the coal stoppage the atmosphere was remarkably clear.

It will be noted from the table of the deposit of each element of atmospheric pollution, appended to this report, that the month of November showed a very high record; for instance, the total solids amounted to 39·94 tons per square mile, as against 22·38 tons for October and 19·16 tons for December, and had that month shown an average fall, the total record for the year would have been less by 13·29 tons than 1925, instead of as it is, 4·27 tons heavier.

The Corporation Chemist's view of these readings is that, owing to disturbing atmospheric conditions, the records are only valuable if compared over a series of years. He points out that most stress should be laid upon the tar and sulphate deposits. The amount of impurities washed out of the atmosphere by rain depends upon the direction of the wind and the rainfall, not only its total amount, but how it is distributed during the month; for instance, a little rain every day would produce a greater deposit of impurities than if the same amount of rain fell in heavy showers at odd intervals. An east wind might bring impurities from outside the City. During November the coal stoppage ended, and possibly something may have been contributed by the variety of fuel used, as the foreign coal was much more smoky than home coal.

COLIN B. PARK,
Senior Smoke Inspector.

9th April, 1927.

Average Deposit of each Element of Atmospheric Pollution for each Month of 1926.

	Month	Rainfall in Millimetres	English Tons per Square Mile													
			Insoluble Matter				Soluble Matter			Total Solids for 1926	Included in Soluble Matter			Total Solids for 1925	Total Solids for 1924	Total Solids for 1923
			Tar	Carbonaceous other than Tar	Ash	Total Insoluble Matter	Loss on Ignition	Ash	Total Soluble Matter		Sulphates as (SO_3)	Chlorine as (Cl)	Ammonia as (NH_3)			
Mean of 9 Stations,	Jan.,	101·92	·25	3·70	6·60	10·55	4·59	8·43	13·02	23·57	3·82	1·60	·66	24·16	23·22	19·76
,, 9 ,,	Feb.,	99·51	·15	2·47	5·69	8·31	4·51	6·50	11·01	19·32	4·23	·66	·69	19 99	14·12	20 44
,, 9 ,,	Mar.,	58·90	·23	3 65	7·54	11·42	4·36	5·70	10·06	21·48	3·11	2·77	·31	17·28	22·07	13·72
,, 9 ,,	April,	62·68	·20	3·41	6·66	10·27	3·87	4·49	8·36	18·63	3·06	·66	·46	26·02	25·97	21·21
,, 9 ,,	May,	74·09	·23	3·36	7 60	11·19	3·47	6·31	9·78	20·97	3·85	·77	·36	28·75	31·94	21·39
,, 9 ,,	June,	48·69	·15	2·91	7·16	10·22	4·08	5·62	9·70	19·92	2·45	·40	·38	15·98	20·88	17·90
,, 9 ,,	July,	72·49	·23	5·56	13·97	19·76	3·85	6·29	10·14	29·90	2·67	·48	·28	23 04	28·65	36·81
,, 8 ,,	Aug.,	74·96	·10	3·70	8·49	12·29	3·06	5·44	8·50	20·79	3 16	·70	·51	23·22	21·33	33·65
,, 9 ,,	Sept.,	58·83	·56	3·57	6·32	10·45	3·39	5·98	9·37	19·82	2·70	·99	·25	18·40	24·32	25·16
,, 5 ,,	Oct.,	106·39	·05	3·06	5·07	8·18	6·63	7·57	14·20	22·38	4·08	1·45	·92	24·17	26·51	31·71
,, 9 ,,	Nov.,	136·60	·10	6·35	10·53	16·98	9·96	13·00	22·96	39·94	6·60	3·44	·66	14·30	23·86	29 81
,, 9 ,,	Dec.,	34·36	·15	4·03	6·90	11·08	3·29	4·79	8·08	19·16	2·37	1·12	·31	36·30	19·78	38·00
Monthly Mean of all Gauges,		77·45	·20	3·81	7·71	11·72	4·59	6·68	11·27	22·99	3·51	1·25	·48	22·63	23·55	25·80
Yearly deposit in Tons per square mile,			2·40	45·77	92·53	140·70	55·06	80·12	135·18	275·88	42·10	15·04	5·79	271·61	282·65	309·56

PART III.

GENERAL SANITARY OPERATIONS.

The reports by the Divisional Sanitary Inspectors are included in this section; they deal with the work of the department both in respect of the City as before extension and of the areas added since 15th May, 1926. Table XXIII in the Appendix contains the tabulated statement of numbers of inspections, nuisances, &c., for each section of the work in respect of Municipal Wards.

SANITARY CONVENIENCES, &c.

Following the issue of a circular letter by the Scottish Board of Health on 1st September, 1925, a special survey was made of the various sanitary conveniences referred to, but as this was not completed until the early months of 1926, the information is now included in tabular form for the City as a whole, and for each of the divisions. Reference was made to some of the data by certain of the inspectors in their reports for last year, but the matter is of sufficient importance to justify inclusion here of this very valuable and comprehensive survey.

Privies, &c.—These are mostly situated in outlying districts of the City, a considerable number being provided for the use of employees in factories or workshops, stable yards, &c. Those attached to dwelling-houses are mostly in properties where there is either drainage difficulty, such as in sparsely populated districts, or where action for the closing of the houses is contemplated. There are 45 privy middens connected with farms or old properties, almost all in the outlying districts.

Water-closet Accommodation.—The table shows that 2,048 closets serve five or more tenants, 8,243 serve four tenants, 18,706 serve three tenants, and 6,227 serve two tenants. Expressing the

2,048 as an average serving six tenants, these figures mean that there are 113,832 families in the City using water-closets in common. This is equivalent to 47 per cent. of the total houses in the City. The tenement system does not readily permit of a remedy in the direction of reducing these proportions without substantial reconstruction of buildings. In many cases, indeed, this would be an impossible structural feat.

The properties in which water-closet accommodation is very inadequate are mostly situated in areas now being or likely to be dealt with under Slum Clearance Schemes. In other cases additional water-closets have been provided at the instigation of the Sanitary Inspectors where possible. Otherwise, it is very doubtful whether bye-laws under the Housing Act, 1925, would be of any assistance at the present time, having regard to the difficulties which would be encountered in applying them.

Dry Closets and Privy Middens.—These are mostly situated in the outlying districts or connected with workplaces, such as yards, stables, &c.

Ashpits.—The question of replacing ashpit accommodation by ashbins in the areas of the City added in 1912 was dealt with in the report for last year, and most of the 3,396 ashpits serving are situated in the Partick and Govan areas which were then annexed. The 3,362 returned as serving five or more tenants are almost in all instances ashpits provided for the use of tenements or groups of tenements.

Water Supply.—There are still 1,249 houses in the City without water supply inside the house, most of these being relics of the old village type of tenement, where common sinks were placed on stair landings, or where water was provided from a tap in the courtyard. A considerable proportion of tenements in which these are situated will be demolished under slum clearance operations.

Baths.—When this survey was made opportunity was taken to ascertain the number of houses in the City provided with baths. The result shows that there are nearly 60,000, or, approximately, 25 per cent. of the total number of houses provided with baths.

STATEMENT SHOWING WATER-CLOSET ACCOMMODATION, &C., USED IN COMMON AT THE BEGINNING OF 1926.

Division.	Central.	Northern.	Eastern.	South East.	South West.	Total.
Privies replaced by w.c's., 1st Jan., 1920, to 31st Dec., 1925,	8	8	8	3	16	43
Privies, * Remaining 31/12/25,	67	138	34	25	44	308
Earth-closets, ,, ,,	2	—	—	—	—	2
Privy middens, ,, ,,	25	15	1	1	3	45
Water-closets serving 2 tenants,	1,031	1,622	1,426	1,065	1,083	6,227
,, ,, 3 ,,	1,459	5,782	6,385	3,210	1,870	18,706
,, ,, 4 ,,	1,291	2,210	2,213	1,345	1,184	8,243
,, ,, 5 or more,	408	502	358	380	400	2,048
Dry-closets serving 1 tenant, ...	19	20	3	7	13	62
,, ,, 2 tenants, ...	6	17	—	9	3	35
,, ,, 3 ,, ...	12	—	—	4	—	16
,, ,, 4 ,, ...	3	5	—	4	—	12
,, ,, 5 or more, ...	4	8	3	2	—	17
Privy middens serving 1 tenant,	4	3	1	—	3	11
,, ,, 2 tenants,	—	7	—	—	—	7
,, ,, 3 ,,	3	2	—	—	—	5
,, ,, 4 ,,	8	—	—	1	—	9
,, ,, 5 ,,	8	1	—	—	—	9
Ashpits serving 2 tenants, ...	—	—	—	6	10	16
,, ,, 3 ,, ...	1	1	1	2	1	6
,, ,, 4 ,, ..	1	—	1	7	3	12
,, ,, 5 or more, ...	1,342	418	181	158	1,463	3,362
Houses without water supply or sink inside—						
1 apartment,...	169	231	307	15	21	743
2 apartments, ...	170	67	180	10	15	442
3 apartments or more, ...	6	4	23	26	6	65
Houses provided with Baths (approximate numbers), ...	18,977	7,075	6,441	17,046	10,422	59,961
Total houses in district, ...	49,493	58,574	49,765	46,936	36,751	241,519

* Includes factories and workshops.

CENTRAL DIVISION.

Two sources of nuisance—choked drains and dirty stairs—still retain their outstanding position, except that the more permanent occupancy of dwellings has reduced the difficulties of dealing with the latter to some extent. To deal with the choked trap, nothing short of its abolition will effect a remedy. Opinion in favour of this has been growing since the Departmental Committee decided against its retention. Almost 50 per cent. of our present-day nuisances would disappear if this were done. Such a law might not be made retrospective generally, but abolition might be made compulsory in the case of recurring nuisances.

Frequent chokage of closets may be attributed to three causes—firstly, the common water-closet, for the use of several families; secondly, the design of the basin; and thirdly, the amount of water used for flushing. It has been demonstrated that to secure a complete cleansing of a modern water-closet a minimum flush of three gallons is necessary. This is not always secured, especially when the flushing cistern is of iron and much corroded. The ultimate result is a choked closet. Bad as may be the results from inadequate flushing, the defective design of the basin is a greater contributory cause of this nuisance. It would almost seem as if, in some cases, the designer had attempted to produce a contrivance which would retain as much of its contents as possible. When the flush takes place the contents go swirling round the basin, making successful attempts to avoid the outgo.

The result, in a short space of time, is a choked closet. There is a bye-law which reads, "Every water-closet hereafter provided shall be so constructed as to be fully flushed at each discharge." In order to secure this, authority is required similar to that possessed by the Water Department with reference to the stamping of water-fittings. No water-closet should be permitted except when stamped by the Sanitary Inspector as suitable in design. The third cause of the choked water-closet is the use of one convenience by several families. It is now thirty-seven years since Local Authorities obtained power to abolish privies and require the provision of water-closet accommodation. A census of water-closet facilities was taken, and is included in a separate table.

During the year under review 14,378 sanitary complaints were received. 8,528 intimations were sent, under Section 19 of the Public Health Act, and 892 notices under Section 20.

Complaints regarding cats are numerous; hundreds of such complaints are received yearly. Here is an example: "Dear Sir,—The tenants of George Street are anxious that the lavatory for stray cats and dogs at No. —— should be closed in case an outbreak of fever or diphtheria starts. This lavatory is disguised as a shop, and the smells are penetrating the houses above. The tenants look to your department to take the necessary action." On inquiry, it was found that this complaint was well founded. The basement—with special means of access provided for animals—was set aside as a rest room, restaurant, and general convalescent home for cats. The inspector found a score of animals on the premises, and the tenant, a well-known lady, admitted that only some of her clientele were present.

Complaints regarding the prevalence of bugs have been numerous. In several cases the co-operation of the owner was obtained in dealing with this nuisance. If the owner removed all the wood facings from the walls, the house was subjected to a strong sulphur fumigation for several hours. Reports as to the results of this operation indicate complete success.

Rag Flock.—Twenty samples of rag flock were taken during the year, 19 of which were found to be within the standard of cleanliness set up by the regulations. The remaining sample was taken from the workshop of a Jewish upholsterer, who had secured an old wool bed to use for the purposes of his business. On analysis the flock showed 270 parts of chlorine per 100,000 parts flock. Proceedings were successfully taken in Court.

Rat Week.—325 premises rat infested, or suspected to be rat infested, are on the register, and the occupiers of these were circularised regarding the desirability of taking concerted action during the specified week. The list is mostly made up of occupiers of restaurants, bakehouses, provision stores, stables, piggeries, &c. In no case is the occupier quiescent in the matter, and in many cases it has been reported that the premises have been cleared of vermin. In most cases special energy of some nature was put into the campaign during the specified week, and while in most cases no definite information could be given as to actual numbers destroyed, in others definite numbers were recorded.

Another result of "Rat Week" is the number of alleged rat-infested premises brought to knowledge. As a direct result of the circular, a stallholder in one of the City markets complained of the number of rats in the market. An inspection was made, when it was found that, while the modern part of the market was practically rat-proof, the older portion presented facilities for harbourage. Rats brought into the market in various consignments of merchandise, if not killed, find their way to the older portion of the premises, and do considerable damage. The Markets Department were communicated with, suggestions for improvement were given, and these suggestions were carried out.

The owner of premises in another locality complained to the Board of Agriculture that his property was infested. He asserted that the rats came from some old tenements at the back of his property. Investigation proved that the infestation was not from an outside source, but that the rats were breeding behind the wood lining on the walls of a butcher's shop in the complainer's premises. The removal of all wood lining and other requirements to make the shop rat-proof were ordered; this was done, and the premises are now free of vermin.

From the reports submitted by the inspectors on the 325 suspected properties already referred to, it can be asserted that a great improvement has been effected during recent years. Where rats are seen, heard, or have given evidence of their presence, action commences, and is kept up until improvement results.

Trapping is common, but successful trapping is uncommon. Poison is used in some cases, but is not suitable. The keeping of dogs and cats is most common, and seems to be successful. The detruction of rat runs and the making of premises rat-proof is the most effective method, and this has become the more common practice. In one case the owner of a private house covered all the floors of the basement with concrete, and cemented the walls under the ground floor.

In many cases, in restaurant kitchens, dairies, provision shops, &c., wooden floors have been removed and concrete ones substituted, and this has been found to be effective. Where all wood lining on walls is removed at the same time, and the wall rendered in cement, success is assured. This has been done in numerous instances.

Towards the end of the year a badly infested house was found in a tenement, in which two or three rats were trapped nightly. With the co-operation of the owner and occupiers, and with the aid of a Burns-Baillie smoke-test machine, volumes of sulphur fumes were passed into the space between the ground and the floor of the ground-flat houses. Since the above operation was carried out no trace of rats has been found in the tenement.

Workshops.—During the year 8,347 visits of inspection were made to 1,631 workshops, and 238 notices dealing with contraventions of the law were issued. It was not found necessary to take proceedings in Court in any instance, as our requirements were invariably carried out.

Housing.—Work under the Housing Acts has been energetically carried on. Of 798 occupied houses in back lands in 1922, 73, 181, and 112 were respectively included in Improvement Schemes of 1923, 1926, and 1927, while 12 were demolished as dangerous. Those still to be dealt with number 440.

PROGRESS IN SLUM CLEARANCE SCHEMES.

	1923.	1926.
Houses included in Scheme, ...	702	165
Houses Closed and Tenants Rehoused to 31/12/26,	525	15
Houses still Occupied at 31/12/26, ...	177	150

Very little complaint can be made regarding the condition of the houses in the Yorkhill Re-housing Scheme. The tenants show great improvement in their habits since their removal from Clyde Street and Piccadilly Street. The tenants of Richard Street are in process of removal to the new houses at Scotstoun. Supervision is being kept up and advice given, but it is yet too early to report on their progress.

REGULATED HOUSES.

Common Lodging-houses.—There are 32 common lodging-houses in the Central Division, including seamen's boarding-houses. 472 visits of inspection were made during the day, and 30 during the night. Sixty intimations were sent regarding contraventions of the bye-laws. One lodging-house for women, 19 Carrick Street, was added to the register during the year. A system of weekly inspections has been instituted, and has been the means of raising the standard of cleanliness in the houses. In one large house in the Partick area electric light has been installed, and this has resulted in a great

improvement. It is interesting to notice the change which has occurred in the lodging-house accommodation during recent years. Formerly there were almost as many lodging-houses in the Saltmarket area as there are to-day in the whole City. The demand for accommodation in the lodging-house has not diminished, but the type of house has changed. The days of the smaller and lower-class type of house are now almost over, larger and higher-class establishments having taken their place; in fact, there would seem to be a growing demand for superior lodgings, at a price just over the charge in the common lodging-house. This want is met by several large establishments which remain outwith the definition of "common lodging-house." The elimination of the name "common lodging-house" is desirable.

There are no emigrants' boarding-houses on the register. This is an aspect of our work which has ceased to exist. In pre-war days from 10,000 to 20,000 emigrants from Russia, Sweden, Denmark, Finland, Poland, Germany, and other European and Asiatic countries passed through the City on their way to Canada and the United States. Since the war and the establishment of the quota system this trade has vanished.

Farmed-out Houses. — There are 487 farmed-out houses in the Division, and during the year strict supervision has been maintained. For instance, 186 contraventions of the bye-laws were notified to owners or keepers. One case may be cited, namely, that of a keeper of farmed-out houses at Dean Street, who, although repeatedly warned, failed to improve her houses, and was ultimately prosecuted and fined £3, with a further penalty of £2 per day until the bye-laws as to the provision of furnishings were observed. The farmed-out houses require constant visitation to keep them up to the standard. Some keepers make a successful effort to keep their houses in order; others are careless, and require constant reminders of their duty. The bye-laws stipulate the articles of furniture to be provided, but make no mention of quality, and the houses vary much in this respect.

Ticketed Houses.—At December, 1925, there were 3,479 ticketed houses on the register, and at December, 1926, there were 3,161—a decrease of 323 houses. The clearance of slums is reducing the number of ticketed houses.

2,939 visits of inspection were made to these houses, and 352 houses were found to be overcrowded—198 of one apartment, 153 of two apartments, and one of three apartments.

Nine of the one-apartment houses were overcrowded by lodgers.

WILLIAM ROY,
Divisional Sanitary Inspector.

May, 1927.

NORTHERN DIVISION.

Extension of Boundaries. — The Glasgow Boundaries Act, 1925, which came into force on 15th May, added a population of 6,144 and an area of 3,287 acres to the Division. The added area, which is now included in Provan, Springburn, Ruchill, and Maryhill Wards, is largely open country, and the only populous places are Millerston and Lambhill. Many of the houses in the new area, particularly those in various miners' rows, are in so poor a sanitary condition as to be regarded as uninhabitable. Lack of drainage facilities and the consequent primitive latrine accommodation are among the outstanding defects.

A noteworthy sale of houses was carried through in the Lambhill district. There the owners of some 40 dwelling-houses of one and two apartments forming a miners' row offered the houses for sale to the occupiers at the price of £5 each, with £1 per year feu-duty, which is less than the annual rent plus rates formerly charged. In every case the offer was accepted, and the tenants became the owners of the houses, which, however, are very far from being ideal homes. In a tenement of 8 houses, in the same locality, the occupiers are in the unusual position of sitting rent free, the owners having apparently relinquished all interest in the property.

General Nuisances.—13,999 nuisances of varied type associated with densely populated areas were recorded. The ward contributing the largest proportion of the total was Cowcaddens, with 2,902; while Cowlairs, with 943, had the best record. These two wards differ widely in several important features. Woodside, which, with an acreage of 170 and a population of 38,000, is the most densely populated ward in the City, yielded 2,284 of the total nuisances dealt with.

Cleansing of Common Stairs, &c.—Dirty stairs and closes are still too common, and much of the time of the inspectors was necessarily devoted to dealing with, and as far as possible preventing, this form of nuisance. One careless householder in a tenement can be a source of annoyance and irritation to the others, and the aid of the department is frequently invoked for the settling of disputes and the enforcing of the bye-laws. Over 2,000 cards showing the rotation of cleansing to be observed by tenants were issued. In most cases the arrangements made for the establishing of a smooth-working rotation are adhered to, but trouble occasionally arises, and during the year 23 defaulters had to be brought before the Court. Four of these were admonished and 19 fined—the fines imposed amounting to £7 4s. 6d.

Limewashing of Closes and Staircases. — Following on regular inspections throughout the year, 1,663 notices, in terms of the Police Act, 1866, were issued to owners. The requirements of the notices were complied with.

Drainage.—The drains and plumber work in connection with the various housing schemes in course of construction throughout the Division were supervised, and 248 smoke-tests were made prior to the houses being occupied. 192 existing tenements, the drainage of

which was suspected to be unsound, were also tested, and in 178 (93 per cent.) of these defects were discovered, and subsequently made good.

Overcrowding.—This continues to be the most urgent problem with which we are confronted, and, although the large number of houses erected during the last few years must have had the effect of minimising the evil to some extent, much more requires to be done in that direction before there will be any really appreciable improvement.

The following table shows the number of persons in each of 500 houses known to be overcrowded. The unwholesome conditions represented by the figures need no emphasising, and it is at least as important to make provision for such families as it is to clear slum areas. The houses are average working-class dwellings of one and two apartments, and both ticketed and non-ticketed houses are included. 39 of the two-apartment houses—21 per cent.—are occupied by two families, and these are indicated by the figures in italics :—

Number and Size of Houses	Number of Inmates											
	5	6	7	8	9	10	11	12	13	14	15	Total
315 of one-apartment, ..	90	70	71	27	26	17	9	4	1	—	—	315
185 of two-apartments. ...	—	—	—	—	68	52	36	16	8	4	1	185
	—	—	—	—	*14*	*9*	*4*	*6*	*4*	*2*	—	*39*
Totals, ...	90	70	71	27	94	69	45	20	9	4	1	500

Since 1923 a record of the most grossly overcrowded houses that have come under notice has been kept, and the result of an inquiry with regard to the present situation of the families concerned is of interest, as indicating in some degree the extent of the movement to larger and more suitable houses. This movement cannot, however, be rapid or widespread until the supply of houses approaches more nearly the demand.

Houses specially reported since beginning of 1923 as being grossly overcrowded, ...	221
Number still overcrowded, ...	126
Number of tenants removed to larger houses in other tenements, ...	58
Number removed to houses in Corporation Schemes, ...	11
Number of houses not now overcrowded, ...	26

Night Inspections of Ticketed Houses.—12,542 visits were made to the 5,926 ticketed houses on the register, and of the houses visited 15 per cent. were found in a more or less overcrowded condition. This percentage is not materially different from that of recent years.

Slum Clearance.

Parliamentary Road Scheme, 1917.—By the end of the year practically the whole of the demolitions had been completed, and the hollow square, which was formerly closely packed with back lands, is now an open, airy space. The carrying out of the scheme has resulted

in a complete transformation of the area, and, apart from the removal of many unhealthy dwellings, has effected a very considerable improvement of the lighting and ventilation of the remaining houses in the front tenements.

Cowcaddens, &c., Scheme, 1923. — The tenements still to be demolished under this scheme include 127 houses, the majority of which are sublet on the farmed-out system. They are occupied as furnished apartments, and as the occupiers are in most cases without furniture of their own, there is some difficulty as to the course that should be adopted with regard to re-housing.

Slum Clearance Scheme, 1926. — 190 houses—for the most part situated in the Port-Dundas area of Cowcaddens Ward—are included in this scheme.

The houses in this Division which have come within the scope of the three schemes referred to number 788, and the selection of the areas was made on the principle of dealing first with those in the poorest sanitary condition, but many seriously defective houses still await their turn for inclusion in a clearance scheme.

Repair of Houses.—In terms of the Housing Act, 1925, action was taken with regard to 882 dwelling-houses which were not, because of their state of repair, reasonably fit for habitation. Defective plaster of walls and ceilings, broken floors and woodwork, leaking roofs, and broken window glass are among the items of disrepair most commonly found. Many of the oldest tenements are so worn out internally as to be in a more or less chronic state of disrepair, and to keep them in anything like a reasonable condition almost continual patching is necessary. The owners of 69 houses failed to execute the required repairs, and the work was carried out by the Master of Works' Department, the cost being charged against the owners. In the case of two houses, regarding which notices calling for extensive repairs were issued, the owners declared their intention of closing the houses, and Closing Orders thereafter became operative.

Slum Clearance Re-housing Schemes.

Sanitary Conditions. — At the end of the year 582 houses at Hamiltonhill and 138 at Campbell Street were in occupation. While the condition of the majority of the houses remains good, it is becoming apparent that in the case of a certain number frequent visitation by inspectors is necessary, in order to ensure that the sanitary conditions conform to a reasonable standard. The tenant who, through slothfulness, habitually keeps his or her house in a dirty and unsatisfactory condition is not usually amenable to persuasion, and, unfortunately, our powers of compulsion are to some extent limited. Before an offender can be brought before the Court, it is meantime necessary to serve a preliminary notice, and as he usually takes fright on receipt of the notice and hurriedly complies with its requirements, it is difficult to deal with him effectively. The time and

trouble involved in keeping such tenants in order is illustrated by the following three examples :—

Example.	Date of Visit.	Condition of House.	Action taken.	
1	January,	Dirty,	Warning given.	House subsequently cleaned.
	June,	,,	Notice served.	House subsequently cleaned.
	November,	,,	Notice served.	Evicted for non-payment of rent.
2	March,	,,	Warning given.	House subsequently cleaned.
	July,	,,	Notice served.	House subsequently cleaned.
	November,	,,	Notice served.	House subsequently cleaned.
3	January,	Fair,		—
	June,	Dirty,	Notice served.	House subsequently cleaned.
	November,	,,	Notice served.	House subsequently cleaned.
	December,	Fair,		—

Overcrowding.—The practice of keeping lodgers still persists, and with regard to the 348 houses forming the first section of the Hamiltonhill Scheme it was found that 79 of the tenants were accommodating lodgers. In 54 instances the lodgers were related to the occupiers, while in the case of the remaining 25 there was no relationship.

The following table shows the number of lodgers in the various houses included in the latter group :—

Number of Houses with	one Lodger,	...	...	...	6
,, ,, ,,	two Lodgers.	...	...	...	4
,, ,, ,,	three ,,	...	...	...	9
,, ,, ,,	four ,,	...	...	...	1
,, ,, ,,	five ,,	...	...	...	4
,, ,, ,,	six ,,	...	...	...	1

NOTE :—On a standard of three persons per room, five of these houses were overcrowded.

Tents and Vans.—The establishing of vans and similar structures to be occupied as ordinary dwellings was referred to in last year's report. The practice, which is another result of the housing shortage, is on the increase, and it is desirable that it should be regulated by more adequate powers than are now possessed. The majority of these vans are let to the occupiers as furnished or partly furnished dwellings, and the occupants are mostly families who, for one reason or another, have moved from houses in various parts of the City. The present bye-laws relating to such structures were intended to regulate the occupancy of vans, &c., which are moved about from place to place at short intervals, but they are inadequate for the purpose of controlling vans which remain on the same site from year to year, and are, so far as the manner of occupancy is concerned, to all intents and purposes dwelling-houses.

It is suggested that additional powers regarding vans of the latter type should deal with such matters as—

(1) vans not to remain in the same locality for longer than a certain period unless with the consent of the Local Authority;

(2) area of ground to be allotted to a van; and

(3) provision of proper conveniences, and, if necessary, the paving and drainage of the site.

Rats and Mice Act.—Previous to the commencement of "Rat Week," in March, 2,074 circulars, containing information regarding the best methods of exterminating rats, were issued to occupiers of premises, which from the nature of the businesses carried on are specially liable to be rat-infested. Special attention was given to 225 premises, including stables, grain stores, grocers' shops, restaurants and the like, known or suspected to be rat-infested, and it is reported generally that action taken had good results.

Suppression of Flies.—Weekly spraying with disinfectant of the dungsteads in connection with stables was, as formerly, carried out during the summer months, and there is no doubt that the results justify the continuance of this method of counteracting the fly nuisance.

Workshops and Bakehouses.—These were kept under observation, and during the year 73 notices were issued with regard to workshops in a dirty condition. It was also necessary to give 45 intimations of want of cleanliness, and 21 with reference to other sanitary defects in connection with bakehouses.

Regulated Houses.—Inspections of common lodging-houses, farmed-out houses, and houses let-in-lodgings were regularly made, and no serious infringement of the bye-laws was discovered.

House-to-House Visitation. — In addition to making systematic visits to schools for the inspection of children suspected to be in a verminous or dirty condition, house-to-house visitation, mostly in specially selected areas, was carried out by the female inspectors, who, in the course of the year, had to enforce the cleansing of 791 dwelling-houses. Three defaulters were brought before the Magistrate—two being fined, and one admonished.

J. H. PATTERSON,
Divisional Sanitary Inspector.

29th March, 1927.

EASTERN DIVISION.

Boundaries Act, 1926.—With the extension of the City boundaries on 15th May, 1926, 135 acres and 83 persons were added to the acreage and population of the Division. The greater part of the

area is under cultivation, although it includes four offensive trades (two tallow melters and two boneboilers), one piggery, and several public works.

General Nuisances.—The total number of nuisances recorded during the year was 15,778, as compared with 15,568 in 1925, and these are detailed in Appendix. The nuisances discovered from year to year vary little in character or number, although the latter could be considerably reduced were it not for the carelessness and indifference of many of the tenants. The nuisances dealt with call for no special notice, as in no case was it found necessary to take Court proceedings.

Limewashing of Closes and Staircases. — Regular surveys were made during the year, and 1,545 notices to cleanse and limewash closes and staircases were issued under the Glasgow Police Act, 1866, the terms of which were duly carried out.

Cleansing of Closes and Stairs.—A large number of complaints are still received regarding the washing and sweeping of closes and stairs, and much of the inspectors' time is taken up enforcing the bye-laws. 5,013 inspections were made; 1,386 rotation cards were served, and 3 defaulters were brought before the Magistrates, and fines, amounting to 10s., were imposed. 2,605 tenants were verbally warned.

Piggeries.—There are 9 piggeries on the register. 64 inspections were made during the year. The premises are well kept, and in good repair.

Cemeteries.—36 inspections were made to ascertain if the bye-laws were being observed, and no infringements were discovered. The Tollcross (Central) U.F. Church Burial Ground was considerably extended during the year.

Farmed-out Houses — There are 208 farmed-out houses on the register, being 7 more than last year. The houses are well conducted, and no serious contravention of the bye-laws was discovered. 1,859 day inspections and 620 night inspections were made.

21 of these houses are located in two back lands in the Mile-end Ward, and are included in the Glasgow Improvement Scheme, 1926. When houses can be provided for the displaced tenants these properties will be demolished.

With a view to controlling the rents charged by the house factor, the Corporation is endeavouring to get powers to protect the sub-tenant in this respect.

Common Lodging-houses.—There are 11 common lodging-houses on the register, being the same as last year. 628 inspections were made by day, and 65 by night. A high standard of cleanliness is maintained in all the houses, and no serious irregularities were discovered.

Factory and Workshop Act, 1901. — Generally speaking, the condition of the workshops, of which there are 690 on the register, was satisfactory. 3,905 inspections were made, and 34 intimations were

issued. One of these referred to defective light and ventilation, 6 to defective water-closet accommodation, 9 to various other defects, and 18 referred to lack of cleanliness. In all instances the improvements suggested by the inspectors were carried out.

Bakehouses.—682 inspections were made to bakehouses, of which there are 82 on the register, viz., 34 factory bakehouses and 48 retail bakehouses. In 14 instances intimations of want of cleanliness were issued, all of which were complied with.

Outworkers.—There are 74 outworkers on the register, and 19 contractors. 252 inspections were made to the premises, which were in all cases found clean and free from infectious disease.

Dungpit Spraying.—During the summer months 5,379 stable dungpits were sprayed with disinfectant, with satisfactory results, no nuisances arising from flies having been reported during the season.

Drainage.—1,060 applications of the smoke-test were made during the year, being 191 more than the previous year. A considerable amount of the drainage inspectors' time was taken up smoke-testing and supervising the drainage in connection with the Corporation Housing Schemes at Belvidere, Springfield Road, Garvald Street, Duke Street, Shettleston, and the Tollcross House Purchase Scheme. In addition to these, the Government steel houses in the Shettleston and Tollcross Ward had to be tested. None of the schemes are yet completed.

In an old tenement in the Mile-end Ward defects were discovered in the drainage system, and the owners were duly notified to have the defects made good. They failed to do so, however, and on the matter being reported to the Committee, they authorised the necessary repairs to be carried out to the satisfaction of this department, and the expense charged against the owners. This was accordingly done.

Offensive Trades.—No new applications for licences were received during the year. One tallow-melter's licence lapsed during the year, owing to the action of the Dean of Guild, who closed the premises as a "dangerous building."

With the extension of the City boundary, however, 4 additional licences fall to be added. These licences are in respect of two premises. each of which is licensed to carry on the business of bone boiling and tallow melting. There are now 6 boneboilers, 15 tallow melters, 5 manure manufacturers, 3 gut cleaners, 4 hide and skin factors, 3 soap-boilers, 6 tanners, and 2 glue and size makers, making a total of 44 licences in the Division. 950 inspections were made during the year, and the respective trades are conducted in a satisfactory manner.

Rats and Mice (Destruction) Act, 1919.—Previous to "Rat Week" the usual circulars were issued to owners and occupiers of premises which were known to be rat infested. A subsequent inspection revealed that a good response had been made to the appeal, 504 rats having been destroyed by special rat hunts, dogs, cats, traps, or poison.

In 8 instances premises were rendered rat-proof by means of concrete or other impervious material. During the year 33 representations were made to owners of tenements in which the houses were found to be more or less infested with rats, and in consequence of joint-action being taken by the owner and occupier, the vermin were exterminated, and the rat runs sealed up.

Nurse Inspectors' Work.—As in previous years, much of the nurse inspectors' time was devoted to the inspection of school children suspected of being verminous or dirty. For this purpose 697 visits were made to schools, and 11,632 children were examined. Of this number, 396 were found to be infested with vermin, 2,889 were slightly verminous, and 1,014 were dirty. The houses of the affected children were visited, and in 276 instances the house or bedding was found dirty. Notices or verbal warnings were given to the parents or guardians, and improvements were effected. It is only by strict and systematic inspection of the children and their homes, however, that a reasonable state of cleanliness can be maintained. The rest of the nurse-inspectors' work consisted of house-to-house visitation in the more squalid parts of their districts, and this, along with their other work, will be found detailed in Appendix.

Cleansing of Cisterns for Drinking Water Supply.—On inspection 255 notices were issued to owners of properties in which the cisterns were found to be foul or uncovered. In all cases the terms of the notices were carried out.

Rent and Mortgage Interest (Restrictions) Acts, 1920-1923.—20 applications were made for certificates by tenants, and of these, 2 refused, 18 granted. Repairs were effected for the 18 granted.

Repair of Houses.—Complaints to the number of 991, affecting 593 houses, were dealt with under Section 3 of the Housing (Scotland) Act, 1925.

Rag Flock Act.—24 samples of rag flock were submitted to the City Analyst. 23 were found to conform to the standard, and 1 contained 35 parts of chlorine per 100,000 parts of rag flock. Proceedings were instituted in Court in this instance. The Sheriff found the charge proved, and thereupon the retailers founded upon a warranty given by the wholesaler. The Sheriff held that, in his opinion, Section 1 (3) of the Act could not be successfully operated in Scotland, and admonished the retailer. As it stands, the Act presents many difficulties in operation, and it is to be hoped that the Bill recently introduced into Parliament will assist administration.

Overcrowding.—Overcrowding is still as prevalent as ever in the Division. The ticketed houses are regularly visited at night, and although at the present time these inspections may not be of much value in preventing overcrowding, they serve as an index to the grossly overcrowded condition of many of the houses, to the houses where grown-up families are huddled together with no regard to the separation of the sexes, and to the houses in which two or more families are compelled to live together because they cannot find

separate accommodation elsewhere. The detailed results of night inspections will be found in Appendix. The same overcrowded conditions obtain in non-ticketed houses of one and two apartments, of that class immediately above the "ticketed" houses, and, indeed, no easing of the conditions existing in either class of house can be hoped for until a more plentiful supply of houses is available.

Glasgow Improvement Scheme, 1923.—At 31st December, 1925, one family remained to be re-housed from the Marlborough Street area of the 1923 Improvement Scheme. This family was displaced early in the year and the house closed. Two properties in the scheme had been closed early in the year and the tenants re-housed, but their demolition was delayed owing to their being utilised for the temporary accommodation of 13 families who had been warned out of dangerous buildings while reconstruction and repairs were carried out. These families, however, have now been re-housed, 3 going back to houses in the tenements they left, while 10 were accommodated in new housing schemes.

The scheme, so far as it applies to the Eastern Division, has now been completed, all the properties affected having been demolished. Of the 129 families in the approved scheme, 96 accepted accommodation in the Corporation Housing Schemes, while the remaining 33 preferred to seek accommodation elsewhere. 21 of these latter exchanged houses with tenants outwith slum areas, and the substituted families were accommodated in new housing schemes. The sites of the demolished properties are being left vacant meantime.

Glasgow Improvement, 1926.—During the year an improvement scheme was prepared which provided for the displacement of 377 families from 349 houses.

Newbank Re-housing Scheme.—All the houses in this scheme have now been occupied, the last three tenants taking up occupation in the early part of the year. In last year's report reference was made to the manner in which the tenants at Newbank were responding to their new environment.

During the past year the 358 houses included in the scheme were kept under strict and systematic supervision. It was found that 33 (or about 9 per cent.) of the tenants were more or less dirty and slovenly in their habits and otherwise unsatisfactory. These tenants, although repeatedly warned and advised by the nurse-inspector, tend to revert to their old ways of living.

It is quite obvious that these tenants, if regular inspection were in any way relaxed, would, through utter neglect and indifference to their responsibilities in this matter, reduce in a very short time the houses provided for them to the condition of those which they have so recently vacated in the slums. More stringent measures are undoubtedly required to deal more effectually with this type of tenant, and to impress upon him not only his responsibility to his own family, but also his responsibility to the community.

In order, however, to deal effectively with these defaulters, some amendment of the law relating to dirty houses is necessary. The law, as it stands, requires that before a prosecution can be entered against a tenant for keeping a dirty house, a notice must be issued giving him a certain time within which to do the necessary cleansing. In cases such as have been referred to, when the nurse-inspector revisits she finds that some attempt at cleansing has been made, and although conditions may be far from being satisfactory, enough has been done to prevent proceedings being taken in Court. After a week or two the nurse on revisiting will probably find the house in much the same condition of dirt and disorder as it was in when she first visited it, with the result that a new notice has to be issued, and the same routine begun all over again. I would suggest, therefore, that the law be amended so that a notice will hold good for six months from the date of issue, and that, if at any time within that period the house or bedding is again found dirty, the tenant can be brought into Court forthwith. Possibly the simplest way of obtaining further powers to accomplish this would be to amend Section 9 (1) (2) of the Glasgow Corporation (Police) Order Confirmation Act, 1904.

Re-housing Schemes in the Division.

(a) *Belvidere Re-housing Scheme.*—This scheme, when completed, will consist of 144 houses of two apartments and 24 of three apartments of the tenement type, and 36 of two apartments and 44 of three apartments of the block type—4 houses in each block, making 248 houses in all. The scheme provides for the re-housing of 236 displaced families. As at 31st December, 1926, 41 of these houses had been occupied; 14 by families displaced from slum areas outwith the Eastern Division. (b) *Springfield Road Re-housing Scheme.*—This scheme, when completed, will provide for the accommodation of 308 families, in houses of two apartments (76) and of three apartments (232), in tenements and blocks. As at 31st December, 1926, 71 houses had been occupied, 39 by tenants from slum areas outwith the Eastern Division. (c) *Garvald Street Re-housing Scheme.*—This scheme, comprising 12 houses of two apartments and 12 houses of three apartments in tenements, was completed during the year, and all the houses are now occupied, 17 of the tenants being displaced from slum areas outwith the Eastern Division. With regard to the tenants re-housed in the re-housing schemes at Belvidere, Garvald Street, and Springfield Road, sufficient time has not yet elapsed to give a detailed report, but, so far as observation has been made, they would appear to be of much the same type as those who have been re-housed at Newbank. (d) *Duke Street Re-housing Scheme.*—This scheme, when completed, will consist of 108 houses of two apartments and 108 houses of three apartments—216 altogether. All are of the tenement type, with 6 houses in each tenement.

Tollcross Road and Braidfauld Street Widening Scheme. — The Corporation having decided upon the demolition of the old properties forming the south-west corner of Tollcross Road and Braidfauld Street for the purpose of a road widening and improvement scheme, the

tenants in the 11 houses, and 1 lodger family, were displaced during the year. Eight families were re-housed in new housing schemes. It is expected that the demolition of the old houses will be proceeded with at an early date.

302 Tollcross Road (Belvidere Cottages).—This area has been purchased by the Corporation with the intention of utilising the site for the future development and extension of the Newbank Re-housing Scheme, and opening up another roadway from this scheme to Tollcross Road. The area contains 6 cottage houses of three apartments each, and 8 tenement houses, making 14 houses in all, containing 22 separate families. 17 of these families were displaced, 13 of whom accepted houses in Corporation Housing Schemes.

Steel Houses in Shettleston and Tollcross Ward.—The erection of the steel houses in the Shettleston and Tollcross Ward, by the Second Scottish National Housing Trust, is proceeding fairly rapidly. Those of the Weir type are completed; the Cowieson type are nearing completion; and the erection of a number of the Atholl type is proceeding. During the year 33 of these houses were occupied, about 20 per cent. by young married couples taking up house for the first time. When completed there will be 464 steel houses (392 of three apartments and 72 of four apartments), the rentals being £27 10s. and £34 respectively, exclusive of rates.

JOHN DONALDSON,
Divisional Sanitary Inspector.

27th April, 1927.

SOUTH-EASTERN DIVISION.

By the passing of the Glasgow Boundaries Act, 1925, a considerable addition was made to the area of this Division as at 15th May last, namely, to Ward 26 (Hutchesontown), a small portion of ground at Polmadie; to Ward 35 (Govanhill), the area known as Toryglen, east of Mallsmire Burn; to Ward 36 (Langside), the Newhouse area, east of Hangingshaw; to Ward 37 (Cathcart), the Aikenhead Estate; and to Ward 34 (Pollokshaws), the Mansewood, Kennishead, and Nitshill areas. In the areas added to the first four named wards there are very few houses. The Mansewood and Kennishead areas are of a residential character. In the village of Nitshill, which has a population of about 2,000, the sanitary conditions are somewhat unsatisfactory. Just prior to annexation a small sewage treatment works was installed, but a considerable number of houses are still without drainage, and the privies in use at these houses have not yet been displaced by water-closets. The question as to the habitability of many of the houses is meantime under consideration, and it is already evident that a considerable number will require to be condemned.

Since the annexation of the area the drains of the Public Hall and of West Park Cottage and Quinn's Land have been connected to the new sewage system, and arrangements have been made to have the drains of the Public School and Schoolhouse similarly connected during the forthcoming summer school holidays.

John's Burn—a small water-course into which a large quantity of the sewage of the village was formerly discharged untreated, and which was more or less silted up and in a foul condition—has now been cleaned out.

A complaint of smells arising from the burn into which the effluent from Giffnock Sewage Works flows was investigated during the summer months, but no smells were experienced, nor was any nuisance arising from the burn found to exist.

Several nuisances of a minor nature in the added areas have been dealt with, while for the whole Division 10,891 nuisances were discovered and action taken for their removal. The usual regular and systematic inspection for the discovery of nuisances was carried out, a total of 156,745 visits being made.

Investigations and observations over a lengthy period were carried out with reference to complaints as to fumes or smells emanating from fish-curing establishments. Frequent visits, both during the day time and in the evenings, failed to establish any nuisance on which action could be taken.

A sample of water taken from the swimming pond for males in Calder Street Public Baths was procured and submitted to the Corporation Chemist for examination, because of a complaint having been received from a man suffering from an eye disease which he thought he had contracted when using the baths. The Corporation Chemist reported that the proportion of copper sulphate used as a disinfectant was less in these baths than in other Corporation baths, and from this and the fact that copper sulphate is frequently added not only to swimming-pond water, but also to drinking water, he concluded that its presence was not likely to cause disease of the eye. He further reported that "the physical and analytical characteristics of the sample were very satisfactory, and proved that the water purification plant was being efficiently worked." The purification system referred to consists of the æration and filtration of the bath water which passes through the pond on the continuous flow principle. The filter is regularly cleansed, and the water does not require to be changed oftener than about once a year.

Church of Scotland Property and Endowments Act, 1925.—The provisions of Section 32 of this Act are to the effect that where a churchyard of a parish has been closed under the Burial Grounds (Scotland) Act, 1855, or as a result of proceedings under the Public Health (Scotland) Act, 1897, either before or after the passing of the Act, the kirk session may, within ten years of the passing of the Act, or if the churchyard has been closed after the passing of the Act, within ten years from that date, take over the custody, maintenance, and control of the churchyard. Arising out of these provisions, the question of the closing of Cathcart Parish Churchyard, on the grounds of its being so overcrowded and so situated as to constitute a nuisance under the Public Health (Scotland) Act, 1897, was raised. Arrangements were therefore made to investigate the conditions.

As a result of piercing the ground, it was found that, although in 164 graves no further burials could take place for some considerable time, there were still 298 graves available for further interments. An inspection of the records revealed the fact that during the past thirty years there had only been a total of 426 burials, or an average of 14·2 per year. The highest number of burials in any one year within the thirty-year period was 21, and the lowest number 6. Though there are some houses within ten yards of the churchyard on one side, the situation is an open one, the manse, which is considerably farther away, being the only other house in the vicinity.

In view of these facts, proceedings for the closure of the churchyard were not instituted.

Early in the year several complaints were received from residenters in the vicinity of Messrs. Dixon's Ironworks with reference to smells or fumes emanating from the works. Observations made by the department proved the complaints to be well founded. Owing to the nature of the nuisance, the investigations were conducted in co-operation with the Corporation Chemist and the Smoke Inspector. Two samples of the atmosphere were procured in the vicinity of the works, and examined by Mr. F. W. Harris, who reported that the first sample showed contamination of the air to the extent of 3·9 parts, and the second sample of 1·96 parts of sulphur dioxide per 10,000 parts of air. The collection of the samples of air was made a few minutes after dense white fumes were observed to emanate from Messrs. Dixon's works, and the Analyst was of opinion that the results definitely established that the cause of the nuisance was the production of sulphur dioxide and, to a less extent, sulphuretted hydrogen during the operation of rapidly cooling the hot furnace slag by the application of water.

As a result of negotiations with Messrs. Dixon's management, arrangements were ultimately made whereby the hoods, under which the hot slag from the furnaces is cooled by watering, were connected to disused shafts which are carried into an adjacent chimney stalk, from which they are discharged at a much higher level, where they become quickly dissipated in the atmosphere. Since this alteration was given effect to no further complaints as to the smells have been received.

Overcrowding still remains a serious problem, there being no apparent reduction in its incidence, notwithstanding the progress being made with the provision of new houses. That there is serious overcrowding of houses which are not so defective structurally as to be brought within a slum clearance scheme, and the tenants of which are, for economic reasons, unable to benefit by the houses being provided by private and other enterprise, is well known. It is, however, satisfactory to note that the Corporation have now a scheme in hand to provide houses for such overcrowded tenants. The accompanying table, compiled from a list of houses which had come

under the observation of the department, will give some idea of the extent of overcrowding in many houses:—

HOUSES OF ONE APARTMENT.

With 5 inmates, ...	376
,, 6 ,, ...	233
,, 7 ,, ...	128
,, 8 ,, ...	64
,, 9 ,, ...	23
,, 10 ,, ...	14
,, 11 ,, ...	3
	841

HOUSES OF TWO APARTMENTS.

With 9 inmates, ...	169
,, 10 ,, ...	90
,, 11 ,, ...	43
,, 12 ,, ...	16
,, 13 , ...	2
,, 14 ,, ...	1
,, 15 ,, ...	1
	322

Housing—Glasgow (Cowcaddens, &c.) Slum Clearance Scheme, 1923.—Of the houses closed but not demolished at the beginning of the year, 17 have now been demolished, while a further 17 have been closed and demolished. The number of houses still in occupation is 22. The house which was unoccupied at the commencement of the scheme and had not been demolished at the beginning of the year has also now been taken down. 13 of the tenants of the houses now closed have been accommodated in re-housing schemes, while the remaining four families found accommodation for themselves elsewhere.

Glasgow Improvement Scheme, 1926.—During the year a further slum clearance scheme was prepared, which, as applied to this Division, embraced the Rose Street area, containing a total of 162 houses, with a population of 770. The inclusion of this area in a slum clearance scheme is of particular interest, as, while the density of houses is excessive, the houses are not themselves obstructed, nor are they obstructive of other houses so as to retard light and free circulation of air. The death-rate from all causes for the area is an exceptionally high one, being 32·2 per 1,000, while the infantile mortality rate is also high, being 190 per 1,000 births. Recently three of the tenements in which there are 58 houses have been condemned as dangerous by the Dean of Guild. The tenants have already been removed, and the buildings are in course of demolition.

Re-housing.—Further houses for the re-housing of dispossessed tenants in slum clearance schemes are at present in course of construction. An extension is being made to the Polmadie scheme, where 30 houses—24 of three apartments and 6 of two apartments—are being built. New sites have also been acquired at M'Neil Street and Govanhill. At the former 180 houses—120 of three apartments and 60 of two apartments—and at the latter 288 houses—144 of three apartments and 144 of two apartments—are being provided.

In addition to the foregoing re-housing schemes, other schemes are at present being proceeded with by the Corporation at Govanhill, Crossmyloof, and Wellmeadow; while extensive building operations by private firms at Moray Park, Langside, King's Park, Aikenhead, Cathcart, Newlands, and Mansewood are also in hand.

The 16 tenants who had been temporarily accommodated in an old mansion house at Pollokshaws, owing to the houses formerly occupied by them having been declared to be in a dangerous condition, have now been permanently re-housed, and the old mansion house has been demolished.

In addition to visits made in connection with the slum clearance scheme, 2,228 visits were paid to houses to ascertain the state of disrepair therein. In 702 houses defects were discovered, and notices were accordingly served upon the owners. In no case was it necessary for the Corporation to carry out the repairs, the factors or owners having had the work attended to.

Rent Restrictions Acts.—There were nine applications from tenants for certificates as to disrepair of their houses. Eight of these were granted, and one was refused. The number of these applications was the same as that of the previous year, but the number of certificates granted was doubled. This may in some measure be accounted for by the fact that as many as seven of the applications were from tenants in the Rose Street area, which had been included in the slum clearance scheme.

Drainage.—The supervising of the construction and repair of drainage systems and the smoke testing thereof have entailed a considerable increase in the work of the department. The smoke test was applied on 1,160 occasions, as compared with 646 occasions last year. This increase is due principally to the steadily growing activities in house building. Of the drainage systems of 115 existing properties to which the test was applied, only 8 were found to be free from defects.

Common Lodging-houses.—The two common lodging-houses in the Division have been regularly visited, and no irregularities were found. Both houses are well managed and maintained in a clean state.

Farmed-out Houses.—There are 118 farmed-out houses now on the register, 17 having been removed during the year, the property in which they were situated having been demolished under a slum clearance scheme. The houses were kept under supervision, 1,367 visits having been paid. 107 contraventions of the bye-laws were discovered, but these were at once remedied on the attention of the keepers or owners being drawn to them.

Verminous and Dirty Children.—The female inspectors' visits to schools numbered 467, and 6,589 children were submitted to them for examination. Of these, 1,210 were found to be in a verminous condition and 216 to be dirty. 1,046 visits were paid to the homes of the children, and notices were served upon the parents or guardians to have the necessary personal cleansing attended to. In connection with these visits, 44 houses were discovered to be dirty, while in 35 cases the bedding was in a filthy condition. The householder in each instance was called upon to cleanse.

Dirty Houses.—9,100 house-to-house visits were made, resulting in the discovery of 468 dirty houses and 114 dirty beddings. Notices were accordingly served on these householders, and on subsequent visits being paid it was found that the terms of the notices had been complied with.

Limewashings.—The usual survey of all closes and staircases was made, and the factors or owners of 1,159 properties were notified to have the walls, &c., limewashed. In every case the work was done.

In connection with this work, it would be a decided advantage if the existing powers were extended to include the limewashing of outbuildings, such as wash-houses, ashbin shelters, cellars, &c.

Water Storage Cisterns.—All storage cisterns in connection with domestic water supplies were examined, and at 236 properties, where the cisterns were found to be dirty, cleansing operations were attended to on the factors being notified.

Cleansing of Closes, Stairs, &c. — 680 cards fixing the tenants' rotation of close and stair cleansing were served, and 772 tenants were warned regarding their failure to comply with the bye-laws. In all but 8 cases those warnings proved effective, and in these latter Court proceedings resulted in 6 being convicted, and fined in sums ranging from 5s. to 20s. One of these, notwithstanding conviction and a fine of 7s. 6d., still failed to cleanse the close, and was, therefore, again brought before the Court, and fined a further 15s. The remaining 2 cases were found not proven.

Workshops.—2,319 visits were paid to workshops. 61 of these were found to require limewashing and cleansing, and in 22 other nuisances were discovered. On notices being issued, these were remedied. There are in all 565 workshops on the register.

Bakehouses.—65 notices—29 referring to want of cleanliness and 36 to other nuisances—were issued, and were duly attended to. There are 102 bakehouses in the Division, and to these 440 visits of inspection were paid.

Outworkers.—No cause for complaint was discovered at any of the 356 visits paid to the premises of outworkers, which number 163.

Tents and Vans.—The vans of showpeople visiting the district for short periods were inspected to ensure that the bye-laws were being complied with.

Offensive Trades.—The business of a soap-boiler was established in Pollokshaws, this being the only offensive trade in the Division. The premises, which have been under regular supervision, have been found to be well kept and free from nuisance.

DUNCAN THOMSON,
Divisional Sanitary Inspector.

4th May, 1927.

SOUTH-WESTERN DIVISION.

Nuisances.—The nuisances recorded number 14,574, as compared with 14,300 last year. Part of the increase is accounted for by nuisances occurring in the Corkerhill, Halfway, Cardonald, Crookston, and Hurlet districts, added to the Division at Whitsunday last, under the Boundaries Act of 1925. A detailed statement of the nuisances removed appears in the Appendix.

Action under the nuisance section of the Public Health Act was taken in the Sheriff Court against a house factor, who failed to restore to a tenement its water supply, which had been turned off on account of a defect in the supply pipe. The tenement adjoins a picture house, the owners of which have acquired it for an extension of their premises. Since the purchase was effected several tenants have removed elsewhere, under circumstances which suggested that failure to repair the water pipe (which meant the cutting off of the water supply to the occupied houses) was an attempt on the part of the owners to squeeze the tenants, who, but for the protection afforded them by the Rent (Restriction) Act, would have been met with scant consideration.

During the temporary revival of the Loch Fyne herring fishing in the autumn, a Peterhead fish merchant started herring gutting and curing in unsuitable premises, unclean and without water-closet accommodation. The business was removed elsewhere as a result of representations made.

Electric fans were introduced into the rubber-proofing factory, referred to in last year's report, which expel the fumes generated in the process of manufacture into the external atmosphere at a point considerably higher than the adjacent dwelling-house windows.

The Education Authority secured suitable premises for the schoolboys formerly accommodated in a dirty and neglected hall used as a men's club in the evenings, and which was referred to in last year's report.

Housing—New Houses.—A number of villas in the Pollokshields, Cardonald, and Crookston areas, portions of the Corporation Housing Schemes at Langlands. Shieldhall, and West Craigton, and of the re-housing scheme at Whitefield comprise the new houses erected during the year.

Slum Clearance—Transfer and Removal of Families and Demolition of Houses.—Individual families to the number of 117, included in the 1923 Improvement Scheme, have removed; 91 of these have been transferred to re-housing schemes, principally Whitefield; of the 183 houses so included in the scheme, 109 are closed, and of these 99 have been demolished. The four back lands at 50 Commerce Street, known as Reform Court, were demolished during the year. In the Improvement Scheme, 1926, 133 houses, comprising the back lands at 147 Centre Street, 2 and 4 Newfield Lane, and 45 Pollok Street (including 1 and 2 Jane Place), and 4 to 23 St. James' Terrace, are included.

A further list of houses, which have reached the demolition stage, has been submitted for inclusion in the 1927 Slum Clearance Scheme.

Repair of Houses.—1,758 visits were made under the Housing Act, and 206 notices were issued regarding want of repair. In many cases the necessary work was carried out by the Master of Works at the landlords' expense.

Overcrowding.—Overcrowding has been referred to at length in previous annual reports, but its persistence and its probable general increase are of such consequence as to demand still more detailed consideration.

Selected groups of non-ticketed houses in four City wards to the number of 2,110 houses were taken for investigation. The following table sets out the number of multiple occupancies found in houses of varying size, and the population :—

Ward.	Number and Size of House.				Number of Houses with Multiple Occupancies.				Population.			
	1 Apt.	2 Apts.	3 Apts.	Total.	1 Apt.	2 Apts.	3 Apts.	Total.	1 Apt.	2 Apts.	3 Apts	Total.
Kingston, - -	126	307	67	500	—	27	20	47	456	1543	421	2420
Kinning Park, -	83	98	3	184	2	9	—	11	311	481	10	802
Govan, - -	220	851	97	1168	—	161	17	178	901	4783	600	6284
Fairfield, - -	23	191	44	258	—	15	3	18	87	873	237	1197
Total, - -	452	1447	211	2110	2	212	40	254	1755	7680	1268	10703

The survey thus comprised 2,110 houses—452 (21·5 per cent.) of one apartment, 1,447 (68·5 per cent.) of two apartments, and 211 (10 per cent.) of three apartments, a rather larger proportion of smaller houses than obtains in the area generally. The important feature is that 254 houses, or 12 per cent. of the total, were found to contain two families (9·4 per cent. in Kingston, 5·9 in Kinning Park, 13·5 in Govan, and 6·9 in Fairfield). Although 19·9 per cent. of the three-apartment houses were so occupied, the number of these is comparatively small. The significant aspect of the matter is that 178 of the two-apartment houses, or 13·5 per cent. of the total, were found to contain two families. This form of overcrowding is rarely met with in single-apartment houses.

The extent to which numerical overcrowding prevails is shown in an appended table. Of the 452 single-apartment houses in the series, 58 per cent. are occupied by more than 3 persons (there being 91 houses with 4 persons, 71 with 5, 33 with 6, 25 with 7, 10 with 8, 6 with 9, and 2 with 10 persons). Of the 1,447 two-apartment houses, 29 per cent. have more than 3 persons per room, and many are similarly, as the table shows, grossly overcrowded. Two factors are concerned—large families and dual occupancies. In 116 instances the overcrowding was largely due to the presence of a second family occupying one of the two apartments. The table gives the conditions obtaining in the three-apartment houses.

These figures reveal a high degree of sub-letting and overcrowding in these selected areas. They indicate a fairly prevalent tendency, though even in the districts selected for study considerable variations in the degree of this tendency occur. For instance, in three streets in Govan Ward, which contain 700 houses, there are 146 with two families, or almost 21 per cent., giving rise to correspondingly greater overcrowding. Indeed, in street X, with 212 houses, 30 per cent. of these had two families; in street Y, with 120 houses, 18 per cent.; and in street Z, with 368 houses, 16 per cent. had two families.

This sub-letting takes place without much regard to the number of persons lodged or to the degree of overcrowding which it produces. It is associated with unemployment and shortage of houses. As has been stated, it affects mostly the two-apartment house, of which there are in these three streets 553, of which 136 (25 per cent.) have two families, while 205 (38 per cent.) contain more than three persons per room. The occupations of the householders and their lodgers and state as to unemployment were also inquired into. The following table shows that one-half are labourers :—

Occupation.	Householder.		Second family.	
	Employed.	Unemployed.	Employed.	Unemployed
Labourers (dock, general, shipyard),	154	147	24	53
Other occupations, ...	173	103	21	36
	327	250	45	89

These data show clearly enough the part which unemployment plays in the conditions described.

It appeared worth while to carry the inquiry further, and to ascertain something of the history of these families occupying sublet houses. For instance, in the group of three streets above mentioned, with their 700 houses, 146 of which are sublet, 49 of these additional families had at one time or other been evicted from their houses for non-payment of rent, while 54 had never had a house of their own since marriage, 22 had come from other districts, especially Ireland, while the remainder (21) had drifted into sublet houses for other (unknown) reasons.

The periods during which the families have been in lodgings varied from a week to ten years, and where the period exceeds one year this is shown hereunder :—

Years in Lodgings.	2.	3.	4	5.	6.	7.	8.	9.	10.
Evicted families, ...	10	4	3	3	1	2	—	—	1
Families who never had a house,	5	5	2	4	4	2	3	2	1
Families from Ireland, ...	3	1	1	3	—	1	1	—	1

20 persons, who had been in lodgings, and had succeeded in renting houses of their own, sublet their second apartments at rents ranging from 4s. to 8s. 6d. a week.

10 householders, who removed from one house to another, sub-let their rooms at from 3s. to 7s. 6d. a week; and 1, who removed from a single-apartment to a three-apartment house, sub-let two of the apartments to separate families at a rent of 5s. a week each.

The selected streets may form an exceptional area, but it is a real one, and one in which 700 houses serve 846 families, 54 of which never have had houses of their own.

Changes of occupancy with resulting decontrol of houses were found to take place with greater frequency than was expected. Taking those families whose current tenancies did not exceed four years, it was found that 473 such changes had taken place throughout the 2,110 houses in the areas surveyed, a figure which amounts to 22 per cent. of the total houses.

Many houses are decontrolled, and consequently changes are readily effected (in one property alone more than a score were noted), and some tenants, before obtaining possession, are required to sign missives of let agreeing to accept the houses in the condition existing at entry, pay a week's rent in advance, and leave a deposit of £2, and, in addition, may have to pay "back rent," that is, the arrears of rent unpaid by the former tenant. The practice of insisting on "back rent" as a pre-requisite to getting a house appears to be not uncommon, and its proof is almost always likely to be difficult to establish. All of which points, among other things, to the scarcity of houses and the eagerness with which a house is sought.

Attention was also directed, in the case of the householders whose duration of occupancy did not exceed four years, as to whether immediately previous to moving into their present houses they had rented houses in the ordinary way, or come from rooms, and so on. The results of these observations are set out as follows :—

From one house to another (ordinary "flittings"), ...	194
From lodgings, ...	185
Newly married couples, ...	52
From parents' houses, ...	13
From other places in Scotland, ...	16
From Ireland, ...	6
From England, ...	4
From Canada and U.S.A., ...	3
	473

It is gratifying to record that of the ordinary flittings, 78 were from a small to a larger house, 29 of these being in the "selected streets."

TABLE SHOWING THE NUMBER OF PERSONS OCCUPYING EACH HOUSE, TOGETHER WITH THE NUMBER OF MULTIPLE OCCUPANCIES, WHICH ARE SHOWN IN BRACKETS.

No. of Persons per House.	1-Apartment.	2-Apartments.	3-Apartments.	Total.
1	31	24	2	57
2	71	128	8	207
3	112	206	25	343
4	91 (1)	249 (28)	28 (2)	368 (31)
5	71	227 (35)	34 (5)	332 (40)
6	33 (1)	189 (33)	27 (4)	249 (38)
7	25	156 (33)	26 (6)	207 (39)
8	10	123 (30)	30 (13)	163 (43)
9	6	70 (27)	13 (3)	89 (30)
10	2	43 (10)	10 (2)	55 (12)
11	—	18 (8)	5 (2)	23 (10)
12	—	7 (3)	2 (2)	9 (5)
13	—	4 (3)	1 (1)	5 (4)
14	—	2 (1)	—	2 (1)
15	—	—	—	—
19	—	1 (1)	—	1 (1)
	452 (2)	1,447 (212)	211 (40)	2,110 (254)

Whitefield Re-housing Scheme.—This scheme is completed, the last group of houses being occupied in June. It contains 114 houses—90 of two and 24 of three apartments. The population numbers 570 persons, of whom 393 are adults and 177 children. The average number of persons per two-apartment house is 4·3, and 7·3 in the three-apartment house. The occupations of the householders are as follows:—General labourer, 58; dock labourer, 12; marine fireman, trimmer, or greaser, 8; carter, 8; riveter or holder-up, 3; joiner, 2; and 1 each of the following:—engineer, gardener, lath splitter, mason, motor driver, postman, rigger, sawyer, shoemaker, storeman, and woodturner. 12 householders are widows.

The houses have been strictly supervised by the female inspectors, who paid 699 visits of inspection. The number of visits to each house ranges from 1 to 11, the difference being accounted for by the varying duration of the occupancy of the houses. At each inspection attention was directed to the general condition as to cleanliness and the airing of the living-rooms, bedrooms, kitchenettes, and bathrooms, and as to the cleanliness of the bedding and bedclothes.

The following table shows the frequency with which the houses were visited and the condition they were found in when visited:—

WHITEFIELD RE-HOUSING SCHEME.—TABLE SHOWING THE NUMBER OF VISITS PAID TO THE HOUSES, THE NUMBER OF HOUSES, AND THE CONDITION IN WHICH SUCH HOUSES WERE FOUND WHEN VISITED.

		Number of Houses.																										
No of Houses Visited.	No of Times Visited.	Clean on Occasions.												Fair on Occasions.											Dirty on Occasions.			Total Visits.
		11	10	9	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7	8	9	10	11	1	2	3	
9	11	4	1	1	—	1	—	1	1	—	—	—	—	1	1	1	—	—	1	1	—	—	—	—	1	—	—	99
9	10	—	4	3	1	—	1	—	—	—	—	—	—	3	1	—	1	—	—	—	—	—	—	—	—	—	—	90
8	9	—	—	5	—	—	2	—	—	1	—	—	—	—	—	2	—	—	1	—	—	—	—	—	—	—	—	72
7	8	—	—	—	4	—	2	—	1	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	—	—	—	56
5	7	—	—	—	—	2	1	2	—	—	—	—	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—	35
17	6	—	—	—	—	—	11	1	2	1	—	2	—	1	2	1	—	2	—	—	—	—	—	—	—	—	—	102
21	5	—	—	—	—	—	—	15	4	—	1	—	1	4	1	—	—	1	—	—	—	—	—	—	1	—	—	105
26	4	—	—	—	—	—	—	—	10	7	6	2	1	7	6	2	1	—	—	—	—	—	—	—	—	—	—	104
11	3	—	—	—	—	—	—	—	—	9	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	33
1	2	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
1	1	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
* 115	Total,	581												116											2			699

*1 house duplicated (two tenants during year).

Consideration of this table shows that 65 of the houses were found clean on every occasion of the 387 visits paid to them; 18 houses visited 107 times were found clean on 89 occasions and fair on 18 occasions—that is, each of the 18 houses was found fair on one occasion and clean on the remainder; and of 14 houses to which 87 visits were paid, each of the houses was fair on 2 occasions, representing 28 visits, and clean on the remainder. At the other end of the scale, the table shows that 1 house, visited 11 times, was found dirty on 1 occasion, fair on 3, and clean on 7; another, also visited 11 times, is recorded as being fair on 6, and clean on 5 occasions; 1 house visited 5 times is shown as being dirty once, fair twice, and clean twice; while another, also visited on 5 occasions, did not once attain the "clean" standard, and appears as being fair on 5 occasions.

The following classification of the houses is based on the foregoing table and the records, the latter of which show the sequence of the varying conditions in the houses, and whether adverse conditions discovered are persistent or intermittent:—

Classification.	No. of Houses.	Precentage of total Houses.	
Very Clean, ...	29	25·5	72
Clean, ...	53	46·5	
Fairly Clean, ...	23	20	
Dirty, ...	9	8	
Total.	114		

The tenants having new houses with every convenience at the commencement of their occupancy, and living under entirely different surroundings, a very high standard of cleanliness, more easily sensed than defined perhaps, was set up, and while the 9 houses, classified as "dirty," cannot be said to be dirty in the sense in which that term is applied to a house which has been long in occupation and shows evidence of disrepair, the almost persistent untidiness in which they were found leaves no other suitable alternative but to include them in the dirty category.

In the autumn months bugs were found in 11 houses. In one or two instances the backs of old pictures, covered with brown paper, and taken from the old houses, were the sources of infestation. It was discovered that the bugs had crawled up the cords, by which the pictures were suspended, to the picture rails, which with other woodwork in the houses were readily infested. This matter was speedily brought under the notice of the City Improvements Department, with a view to their taking immediate and effective steps to prevent whole tenements becoming infested, and, with this object, all facing and skirting boards in the houses complained of were prised off, and, where found to be infested, these and the woodwork in contact therewith and adjacent thereto were scorched with a blow-lamp and the woodwork generally treated with a liquid insecticide. All tenants with infested or suspected pictures were called upon either to thoroughly disinfect or dispose of them. Action might have been competently taken against the tenants (this at best would have been a slow process), but as the essence of the action to be taken was its speed combined with efficiency the course outlined above was adopted.

In view of the bug infestation of some of the new houses, it is recommended that all suspected mattresses and other articles of furnishing likely to retain bugs should be disinfected before being transferred from old to new houses.

In addition to ensuring cleanliness within the houses, the closes and stairs leading to them are inspected, and the bye-laws so strictly enforced that all the closes and stairs have been washed twice each week since the houses were occupied. This has, of course, taken up much time, but the success following such supervision justified its continuance.

It is, of course, too early yet to form a definitive opinion on the Whitefield Re-housing Scheme, but meantime its present condition leaves no doubt as to the general all-round improvement on the previous state of affairs, which improvement, inevitable in the nature of things, is being maintained by the great majority of the housewives, whose appreciation of the opportunity afforded them is reflected in the way in which they keep their houses.

Dirty Houses.—464 notices, under the Police Order of 1904, were served upon householders whose dwelling-houses were not in a cleanly condition. This is a considerable increase on last year, and is largely accounted for by the intensive house-to-house visitation resorted to during the outbreak of typhus fever in August. With one exception the notices were attended to without recourse to Court proceedings.

A house having been found in a dirty condition, and a warning having proved of no avail, a notice was drawn up in the usual manner, but, when an attempt was made to serve it, the occupier's wife, after the female inspectors had obtained admission to the house, locked the door of the house from the inside and took the key out of the lock, seized the notice and tore it to pieces, and forcibly detained the inspectors in the house. Proceedings were consequently taken in the Police Court, and the offender charged with tearing the notice and threatening the inspectors. The Magistrate, after proof, found both charges not proven. The house not having been properly cleaned in the interval which elapsed between the original visit and the Police Court proceedings, a new notice was served upon the occupier, ample provision being taken to ensure effective service. Very little improvement having taken place on the expiry of the notice, and the offender, after having received a further caution, to which he paid no attention, was proceeded against in the Police Court, where, after proof, he was convicted and fined in 30s., with the alternative of fifteen days' imprisonment. The house was immediately thereafter cleaned satisfactorily.

Police Acts—Limewashing of Closes and Staircases.—1,396 notices were served. An appeal by a house factor against 21 notices was dismissed by the Magistrates. The work was carried out without recourse to Police Court proceedings.

Additional Water-closets and Sinks. — 12 new water-closets have been provided, and sinks with a water supply fitted up inside 13 houses.

General.—The details of the routine work will be found in the Appendix.

JAMES REID,
Divisional Sanitary Inspector.

15th March, 1927.

APPENDIX.

TABLE I.—GLASGOW, 1926.—ESTIMATED POPULATION IN EACH MUNICIPAL WARD, ACREAGE, AND PERSONS PER ACRE.

MUNICIPAL WARDS.	POPULATION.				Acreage.	Persons per acre (including Institutions and Shipping.)
	Without Institutions and Shipping.	Institutions.	Shipping.	Total.		
1. Shettleston and Tollcross, -	34,320	100	...	34,420	887	39
2. Parkhead, - -	37,853	1,295	...	39,148	883	44
3. Dalmarnock, -	41,971	33	...	42,004	288	146
4. Calton, - -	36,455	1,917	..	38,372	333	115
5. Mile end. - -	25,961	54	...	26,015	191	136
6. Whitevale, - -	24,740	607	...	25,347	176	144
7. Dennistoun. -	22,780	314	...	23,094	280	82
8. Provan, -	35,057	256	...	35,313	973	36
9. Cowlairs, - -	24,542	2,162	...	26,704	456	59
10. Springburn, -	18,201	2,087	...	20,288	760	27
11. Townhead, - -	28,716	1,625	...	30,341	175	173
12. Exchange, - -	17,055	2,671	...	19,726	289	68
13. Blythswood, -	13,785	2,273	75	16,133	242	67
14. Anderston, - -	28,803	1,030	1,851	31,684	422	75
15. Sandyford, - -	23,875	454	...	24,329	152	160
16. Park, - - -	22,364	249	...	22,613	272	83
17. Cowcaddens, -	40,454	700	9	41,163	488	84
18. Woodside, - -	36,926	838	...	37,764	170	222
19. Ruchill. - -	27,102	1,110	2	28,214	767	37
20. North Kelvin, -	23,907	28	...	23,935	146	164
21. Maryhill, - -	25,097	2,533	...	27,630	915	30
22. Kelvinside, -	22,134	1,055	...	23,189	1,127	21
23. Partick (East), -	30,540	1,082	...	31,622	268	118
24. ,, (West), -	27,220	71	152	27,443	357	77
25. Whiteinch, -	30,440	622	3	31,065	1,266	25
26. Hutchesontown, -	41,681	24	...	41,705	378	110
27. Gorbals, - -	51,562	674	...	52,236	252	207
28. Kingston, - -	34,035	220	172	34,427	285	121
29. Kinning Park, -	37,598	575	491	38,664	379	102
30. Govan, - -	37,604	340	13	37,957	529	72
31. Fairfield, - -	32,560	2,070	14	34,644	1,205	29
32. Pollokshields, -	25,714	356	...	26,070	1,673	16
33. Camphill, - -	20,806	118	...	20,924	366	57
34. Pollokshaws, -	19,325	...	...	19,325	343	56
35. Govanhill, - -	31,862	114	...	31,976	290	110
36. Langside, - -	18,504	635	...	19,139	430	45
37. Cathcart, - -	16,999	...	...	16,999	770	22
OLD CITY, -	1,068,548	30,292	2,782	1,101,622	19,183	57
ADDED AREA, -	16,337	3,578	9	19,924	10,328	2
CITY, - -	1,084,885	33,870	2,791	1,121,546	29,511	38

TABLE II.—GLASGOW, 1926.—INHABITED AND UNOCCUPIED HOUSES IN EACH MUNICIPAL WARD.

MUNICIPAL WARDS.	INHABITED HOUSES.*				Empty Houses
	1926.	1925.	Decrease.	Increase.	
1. Shettleston and Tollcross, -	7,082	7,024	...	58	5
2. Parkhead, - - -	8,228	8,113	...	115	4
3. Dalmarnock, - - -	9,134	9,134	...	...	6
4. Calton, - - - -	8,366	8,366	...	...	20
5. Mile-end, - - - -	5,710	5.706	...	4	10
6. Whitevale, - - -	5,558	5,565	7	...	5
7. Dennistoun, - - -	5,687	5,690	3	...	7
8. Provan, - - - -	7,698	7.691	...	7	5
9. Cowlairs, - - - -	5,651	5,653	2	...	4
10. Springburn, - - -	3,902	3,825	...	77	3
11. Townhead, - - -	6,513	6,517	4	...	1
12. Exchange, - - -	4.015	4,024	9	...	9
13. Blythswood, - - -	2.958	3,011	53	...	9
14. Anderston, - - -	6,413	6,463	50	...	13
15. Sandyford, - - -	5,258	5.323	65	...	15
16. Park, - - - -	5,221	5.230	9	...	17
17. Cowcaddens, - - -	9,128	9,212	84	...	5
18. Woodside, - - -	8,489	8,490	1	.	12
19. Ruchill, - - -	6,064	6,003	...	61	7
20. North Kelvin, - - -	5,737	5,742	5	...	13
21. Maryhill, - - - -	5,392	5,391	...	1	7
22. Kelvinside, - - -	5.522	5,380	...	142	54
23. Partick (East), - - -	6,923	6,925	2	...	8
24. ,, (West). - -	6,499	6,506	7	...	8
25. Whiteinch, - - -	6,684	6,392	...	292	41
26. Hutchesontown, - -	9,457	9,461	4	..	1
27. Gorbals, - - - -	11,015	11,048	33	...	16
28. Kingston, - - - -	7,278	7,362	84	...	15
29. Kinning Park, - - -	8,340	8,294	...	46	15
30. Govan, - - -	7,751	7,777	26	...	10
31. Fairfield, - - - -	7,115	6,957	...	158	7
32. Pollokshields, - - -	6,267	6,239	...	28	28
33. Camphill, - - - -	5,518	5,499	...	19	6
34. Pollokshaws, - - -	4.577	4,531	...	46	2
35. Govanhill, - - -	7,496	7,498	2	...	2
36. Langside, - - - -	4,745	4,748	3	...	7
37. Cathcart, - - - -	4,128	3,982	...	146	11
OLD CITY, - -	241,519	240,772	...	747	408
ADDED AREA, -	3,692	...	...	3,692	13
CITY, - - -	245,211	240,772	...	4,439	421

* The number of houses has been adjusted to include Inhabitant Occupiers.

TABLE III.—GLASGOW.—LININGS GRANTED BY DEAN OF GUILD COURT IN YEARS FROM 1915 TO 1926 IN RESPECT OF HOUSES.

Year ending 31st August.	No. of Apartments.						Total.
	1.	2.	3.	4.	5.	6.	
915, ...	63	156	120	32	35	48	454
916, ...	1	...	2	...	12	1	16
917, ...	...	...	...	...	...	...	...
918, ...	...	64	28	...	...	...	92
919, ...	...	...	144	78	...	...	222
920, ...	...	12	1,239	414	214	57	1,936
921, ...	...	...	1,176	981	240	34	2,431
922, ...	...	...	65	99	39	31	234
923, ...	...	680	286	205	104	46	1,321
924, ...	...	357	991	605	745	82	2,780
925, ...	...	504	674	111	44	61	1,394
926, ...	...	318	4,649	967	769	93	6.796

TABLE IV.—ABSTRACT OF METEOROLOGICAL OBSERVATIONS TAKEN AT SPRINGBURN PUBLIC PARK.

Months. 1926.	Temperature.			Rainfall.		Sunshine.
	Highest Temperature in Shade.	Lowest Temperature in Shade.	Mean Temperature.	No. of Days it fell	Amount Collected, in inches.	Hours.
January, ...	51	27	39·6	28	4·86	12·6
February, ...	53	25	40·8	20	4·77	26·8
March, ...	53	28	41·9	21	2·78	46·6
April, ...	64	34	47·0	19	2·95	89·6
May, ...	68	31	48·7	20	3·34	177·3
June, ...	73	41	56·0	16	2·36	202·3
July, ...	86	46	60·7	13	3·69	190·0
August, ...	77	47	59·2	19	3·80	164·5
September, ...	79	32	54·6	23	3·71	94·9
October, ...	72	22	43·5	19	5·70	94·3
November, ...	56	23	40·0	24	5·89	45·1
December, ...	50	24	40·0	20	2·06	29·6
1917, ...	74	20	46·7	194	36·67	1,122
1918, ...	78	10	47·5	237	41·36	1,082
1919, ...	75	12	46·2	186	30·93	1,341
1920, ...	75	26	48·1	230	43·88	1,030
1921, ...	82	22	48·5	249	43·23	1,228
1922, ...	79	31	46·8	228	32·87	1,089
1923, ...	83	20	46·4	260	44·64	1,036
1924, ...	74	18	46·1	256	39·72	973
1925, ...	83	18	46·7	222	38·24	1,224
1926, ...	86	22	47·7	242	45·91	1,174

The records for years previous to 1921 were taken at Glasgow Observatory.

TABLE V.—GLASGOW.—BIRTHS AND BIRTH-RATES *per Million* IN EACH WARD, EXCLUSIVE OF INSTITUTIONS AND HARBOUR, FOR THE YEAR 1926, AND NUMBER AND PERCENTAGE OF ILLEGITIMATE BIRTHS.

MUNICIPAL WARDS.	Births. 1926.	Illegitimate Births		Birth-rate 1926.	Birth-rate 1925
		No.	% Total Births.		
1. Shettleston and Tollcross, ...	842	45	5·3	24,534	24,6
2. Parkhead, ...	931	58	6·2	24,595	24,4
3. Dalmarnock, ...	1,253	64	5·1	29,854	31,5
4. Calton, ...	1,083	84	7·8	29,708	30,5
5. Mile-end, ...	806	30	3·7	31,047	34,0
6. Whitevale, ...	653	49	7·5	26,395	27,2
7. Dennistoun, ...	296	16	5·4	12,994	15.5
8. Provan, ...	892	37	4·1	25,444	27,6
9. Cowlairs, ...	505	17	3·4	20,577	20,3
10. Springburn, ...	391	9	2·3	21,482	22,7
11. Townhead, ...	647	44	6·8	22,531	23,0
12. Exchange, ...	502	46	9·2	29,434	30,0
13. Blythswood, ...	319	43	13·5	23,141	22,9
14. Anderston, ...	819	49	6·0	28,435	27,2
15. Sandyford.	529	44	8·3	22,157	23,4
16. Park, ...	251	29	11·6	11,223	11.6
17. Cowcaddens, ...	1,187	93	7·8	29,342	30,6
18. Woodside, ...	902	58	6·4	24,427	26,0
19. Ruchill, ...	649	33	5·1	23,947	25,5
20. North Kelvin, ...	438	28	6·4	18,321	18,6
21. Maryhill, ...	558	21	3·8	22,234	25,2
22. Kelvinside, ...	185	5	2·7	8,358	7,7
23. Partick (East), ...	644	37	5·7	21,087	21.4
24. „ (West), ...	507	25	4·9	18,626	20,1
25. Whiteinch, ...	523	22	4·2	17,181	18,2
26. Hutchesontown, ...	1,119	57	5·1	26,847	27,3
27. Gorbals, ...	1,406	111	7·9	27,268	27,8
28. Kingston, ...	943	70	7·4	27,708	29,2
29. Kinning Park, ...	940	50	5·3	25,001	27,0
30. Govan, ...	1.044	58	5·6	27,763	27,5
31. Fairfield, ...	666	18	2·7	20,455	23,0
32. Pollokshields, ...	354	7	2·0	13,767	15,3
33. Camphill, ...	267	8	3·0	12,833	13,1
34. Pollokshaws, ...	313	17	5·4	16,197	18,5
35. Govanhill, ...	493	27	5·5	15,473	18,3
36. Langside, ...	229	6	2·6	12,376	11,9
37. Cathcart, ...	173	5	2·9	10,177	9,8
Institutions, &c., ...	86	30	—	—	—
CITY, ...	24,345	1,450	6·0	22,099	23,1
ADDED AREA—Births from 15th May, 1926, to end of year (not included in Ward or City figures), - -	196	10	—	—	—

ABLE VI.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* IN EACH MUNICIPAL WARD, FOR THE YEAR 1926, AND CORRESPONDING RATES FOR 1924 AND 1925.

MUNICIPAL WARDS.	Deaths. 1926.	Death-rates.		
		1926.	1925.	1924.
1. Shettleston and Tollcross, ...	435	12,675	11,576	13,279
2. Parkhead, ...	476	12,575	11,844	12,617
3. Dalmarnock, ...	640	15,249	14,487	17,152
4. Calton, ...	592	16,239	17,612	18,293
5. Mile-end, ...	456	17,565	17,732	19,016
6. Whitevale, ...	342	13,824	13,605	15,469
7. Dennistoun, ...	258	11,326	10,443	11,925
8. Provan, ...	485	13,835	11,535	14,835
9. Cowlairs, ...	277	11,287	10,224	10,915
0. Springburn, ...	180	9,890	11,040	12,617
1. Townhead, ...	419	14,591	13,609	14,867
2. Exchange, ...	300	17,590	16,849	17,971
3. Blythswood, ...	221	16,032	17,460	17,135
4. Anderston, ...	422	14,651	15,606	16,053
5. Sandyford, ...	347	14,534	15,393	16,064
6. Park, ...	255	11,402	12,410	14,032
7. Cowcaddens, ...	617	15,252	15,848	17,301
8. Woodside, ...	551	14,922	14,433	15,421
9. Ruchill, ...	285	10,516	10,661	12,841
0. North Kelvin, ...	274	11,461	10,072	12,455
1. Maryhill, ...	294	11,715	11,120	11,437
2. Kelvinside, ...	224	10,120	10,526	10,836
3. Partick (East), ...	411	13,458	13,814	14,935
4. ,, (West), ...	285	10,470	11,415	10,602
5. Whiteinch, ...	311	10,217	9,964	10,244
6. Hutchesontown, ...	565	13,555	12,927	15,325
7. Gorbals, ...	885	17,164	15,566	17,778
8. Kingston, ...	521	15,308	16,849	18,447
9. Kinning Park, ...	507	13,485	13,452	16,080
0. Govan, ...	523	13,908	14,684	16,376
1. Fairfield, ...	372	11,425	11,277	11,987
2. Pollokshields, ...	272	10,578	10,275	10,137
3. Camphill, ...	232	11,151	9,982	11,257
4. Pollokshaws, ...	241	12,471	9,515	10,554
5. Govanhill, ...	317	9,949	9,979	10,386
6. Langside, ...	171	9,241	10,100	11,805
7. Cathcart, ...	148	8,706	9,330	9,187
Institutions, &c., ...	697	—	—	—
OLD CITY, ...	14,808	13,442	13,253	14,561
+ Inward Transfers, ...	15,628	14,186	13,969	15,391
ADDED AREA—Deaths from 15th May, 1926, to end of year (adjusted for transfers and not included in Ward or City figures),	103	—	—	—

TABLE VII.—GLASGOW.—NUMBER OF OUTWARD AND INWARD TRANSFER DEATHS FOR THE YEARS 1924-1926.

Cause of Death.	Outward Transfers.			Inward Transfers.		
	1924.	1925.	1926.	1924.	1925.	1926.
1. Enteric Fever, ...	1	1	...	...	...	...
2. Typhus Fever, ...	...	...	...	...	...	...
3. Smallpox, ...	...	...	...	...	...	...
4. Measles, ...	4	...	2	...	..	1
5. Scarlet Fever, ...	2	1	7	1	...	1
6. Whooping-cough, ...	2	4	4	2	2	...
7. Diphtheria and M. Croup, ...	6	3	2	1	...	...
8. Croup, ...	...	...	1	...	...	...
9. Influenza, ...	...	...	...	9	...	3
10. Erysipelas, ...	7	8	4	1	3	3
11. Septicæmia, ...	15	16	9	3	1	2
11A Other Septic Diseases, ...	16	7	14	...	2	4
12. Pulmonary Tuberculosis, ...	23	17	21	150	110	123
13. Tuberculous Meningitis, ...	24	16	17	9	5	7
14. Abdominal Tuberculosis, ...	20	18	14	28	12	9
15. Other Tuberculous Diseases,	14	13	14	22	31	36
16. Cancer (Malignant Disease),	215	230	237	38	36	45
17. Rheumatic Fever, ...	3	3	6	3	1	3
18. Alcoholism, ...	...	1	...	...	...	...
19. Cerebro-Spinal Fever, ...	2	3	7	...	...	...
20. Meningitis (not Tuberculous),	11	8	11	3	3	1
21. Cerebral Hæmorrhage (Apopl.)	25	28	22	48	38	43
22. Other Nervous Diseases, ...	62	58	72	185	154	161
23. Organic Heart Diseases, ...	52	55	64	86	96	90
24. Other Circulatory Diseases,	42	46	38	41	37	23
25. Bronchitis, ...	24	14	11	23	14	27
26. Pneumonia (all forms), ...	66	61	67	55	60	56
27. Other Respiratory Diseases,	21	10	15	11	10	4
28. Diarrhœa and Enteritis, ...	43	24	39	23	7	11
29. Appendicitis and Typhlitis,	62	94	68	2	5	2
30. Cirrhosis of the Liver, ...	4	1	7	1	1	...
31. Other Digestive Diseases, ...	145	148	158	14	12	11
32. Nephritis and Bright's Disease,	53	46	41	14	10	17
33. Puerperal Fever, ...	14	9	9	...	1	...
34. Other Accidents and Diseases of Pregnancy and Parturition,	18	23	18	4	1	1
35. Congenital Debility and Malformation, including Premature Birth, ...	63	47	33	5	1	3
36. Violence, ...	143	142	141	51	67	65
37. Unknown, ...	...	2	2	1	1	...
38. All other causes, ...	174	175	173	76	65	68
Old City, ...	1,376	1,332	1,348	910	786	820
Added Area (15th May to end of year), ...	—	—	196†	—	—	23

† *Includes* 124 *transfer Deaths to Old City.*

* ,, 16 ,, ,, *from Old City.*

BLE VIII.—GLASGOW.—DEATHS AND DEATH-RATES *per Million* FROM DIFFERENT AUSES, FOR THE YEAR 1926, AND CORRESPONDING RATES FOR 1925 AND 1921-1925.

CAUSE OF DEATH.	ANNUAL DEATH-RATE PER MILLION.			DEATHS.	
	1921-1925.	1925.	1926.	OLD CITY, 1926.	ADDED AREA (from 15th May, 1926, to end of Year).
1. Enteric Fever, ...	11	13	15	16	—
2. Typhus Fever, ...	1	—	1	1	—
3. Smallpox, ...	1	—	—	—	—
4. Measles, ...	476	107	389	428	1
5. Scarlet Fever, ...	64	62	81	89	1
6. Whooping-cough,... ...	460	537	165	182	1
7. Diphtheria & Mem. Croup,	122	103	120	132	—
8. Croup, ...	5	4	7	8	—
9. Influenza,...	306	191	350	386	2
10. Erysipelas, ...	50	42	45	50	1
11. Septicæmia, ...	42	42	42	46	1
11A Other Septic Diseases, ...	41	47	44	49	—
12. Pulmonary Tuberculosis,...	1,005	922	861	949	6
13. Tuberculous Meningitis, ...	163	147	140	154	1
14. Abdominal Tuberculosis,	103	97	67	74	1
15. Other Tuberculous Diseases,	122	118	104	115	1
16. Cancer (Malignant Disease),	1,195	1,261	1,264	1,391	11
17. Rheumatic Fever, ...	46	41	46	51	—
18. Alcoholism, ...	12	11	5	6	—
19. Cerebro-Spinal Fever, ...	46	38	44	48	—
20. Meningitis (not Tuberculous), ...	105	91	88	97	—
21. Cerebral Hæmorrhage (Apoplexy), ...	736	644	703	774	10
22. Other Nervous Diseases,...	753	716	707	779	5
23. Organic Heart Diseases,...	1,245	1,364	1,394	1,536	5
24. Other Circulatory Diseases,	575	659	698	769	6
25. Bronchitis, ...	880	804	707	779	1
26. Pneumonia (all forms), ...	1,662	1,517	1,596	1,758	4
27. Other Respiratory Diseases,	206	196	171	188	1
28. Diarrhœa and Enteritis, ...	427	385	418	461	1
29. Appendicitis and Typhlitis,	94	87	85	94	—
30. Cirrhosis of the Liver, ...	35	46	31	34	2
31. Other Digestive Diseases,	404	384	432	476	2
32. Nephritis and Bright's Disease, ...	368	350	370	408	2
33. Puerperal Fever, ...	68	62	63	69	1
34. Other Accidents and Diseases of Pregnancy and Parturition, ...	93	106	76	84	4
35. Congenital Debility and Malformation, including Premature Birth, ...	896	775	811	893	6
36. Violence, ...	519	563	586	646	3
37. Unknown, ...	13	12	14	15	1
38. All other Causes,... ...	1,458	1,425	1,446	1,593	22
Total, ...	14,808	13,969	14,186	15,628	103

TABLE IX(a)—Glasgow, 1926.—DEATHS from Different Diseases among Males and at several Age-Periods.

Disease.	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+	Total Males
1. Enteric Fever, ...	—	—	—	—	—	1	—	4	1	3	—	—	—	9
2. Typhus Fever, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Smallpox, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4. Measles, ...	67	100	50	5	1	—	—	—	—	—	—	—	—	223
5. Scarlet Fever, ...	1	8	12	6	1	1	1	3	—	—	—	—	—	33
6. Whooping-cough, ...	34	28	22	2	1	—	—	—	—	—	—	—	—	87
7. Diphtheria and Membranous Croup, ...	14	18	30	6	1	1	—	—	—	—	—	—	—	70
8. Croup, ...	—	—	4	—	—	—	—	—	—	—	—	—	—	4
9. Influenza, ...	16	7	4	4	3	5	3	6	22	25	37	36	16	184
10. Erysipelas, ...	2	1	—	—	—	—	1	—	4	3	8	7	—	26
11. Septicæmia, ...	3	2	3	2	1	—	1	2	5	5	2	1	—	27
11a. Other Septic Diseases, ...	5	4	1	—	—	—	—	2	—	3	7	3	4	29
12. Pulmonary Tuberculosis, ...	1	3	3	5	14	32	50	99	77	95	57	18	1	455
13. Tuberculous Meningitis, ...	14	16	20	14	3	4	1	2	3	2	—	—	—	79
14. Abdominal Tuberculosis, ...	2	2	4	12	5	—	3	3	1	4	—	—	—	36
15. Other Tuberculous Diseases, ...	4	4	1	1	4	5	3	3	3	1	5	1	—	35
16. Cancer (Malignant Disease), ...	—	1	1	—	—	1	3	16	29	114	226	181	46	618
17. Rheumatic Fever, ...	—	—	—	3	5	3	2	1	1	4	3	—	—	22
18. Alcoholism.... ...	—	—	—	—	—	—	—	—	2	1	2	—	—	5
19. Cerebro-Spinal Fever, ...	15	5	3	1	1	1	1	—	—	2	—	—	—	29
20. Meningitis (not Tubercular), ...	26	12	10	4	2	1	2	—	2	4	1	1	1	66
21. Cerebral Hæmorrhage (Apoplexy),	—	—	1	—	—	—	1	—	10	40	89	129	85	355
22. Other Nervous Diseases, ...	71	6	3	3	9	13	6	20	23	39	54	60	32	339
23. Organic Heart Disease, ...	3	—	1	3	4	7	4	20	41	87	173	215	127	685
24. Other Circulatory Diseases, ...	7	3	2	2	3	1	3	11	31	54	121	120	83	441
25. Bronchitis, ...	63	12	3	1	—	1	2	6	21	30	69	96	67	371
26. Pneumonia (all forms), ...	281	159	82	13	7	17	22	45	82	96	92	67	41	1,004
27. Other Respiratory Diseases, ...	9	3	2	—	2	1	2	6	8	17	14	8	6	78
28. Diarrhœa and Enteritis, ...	164	31	10	2	—	2	1	2	11	10	10	6	3	252
29. Appendicitis and Typhlitis, ...	—	—	3	9	4	11	2	6	4	4	4	1	—	48
30. Cirrhosis of the Liver,	—	—	—	—	—	—	—	—	4	4	8	7	2	25
31. Other Digestive Diseases, ...	29	5	9	6	3	1	5	10	26	36	44	43	10	227
32. Nephritis & Bright's Disease.	1	1	—	2	2	1	5	10	14	40	39	48	12	175
33. Puerperal Fever, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
34. Other Accidents and Diseases of Pregnancy and Parturition, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35. Congenital Debility, Malformation, Premature Birth, ...	538	2	2	2	1	1	1	—	—	—	—	—	—	547
36. Violence, ...	25	14	27	25	17	17	16	38	57	58	41	33	18	386
37. Unknown, ...	5	—	—	1	—	—	—	—	1	1	—	—	—	8
38. All others, ...	64	14	6	7	2	7	7	19	29	83	115	154	184	691
All Causes, ...	1,464	461	319	141	96	135	148	334	512	865	1,221	1,235	738	7,669
Inward Transfer Deaths, ...	14	10	10	10	9	20	16	44	53	81	76	75	34	452
Total, ...	1,478	471	329	151	105	155	164	378	565	946	1,297	1,310	772	8,121
Added Area (from 15th May), corrected for Transfers, ...	10	—	—	1	2	1	1	1	3	5	8	8	8	48

TABLE IX(B)—GLASGOW, 1926.—DEATHS FROM DIFFERENT DISEASES AMONG FEMALES AND AT SEVERAL AGE-PERIODS.

DISEASE.	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+	Total Females	BOTH SEXES
Enteric Fever, ...	—	—	—	—	1	2	1	—	—	1	2	—	—	7	16
Typhus Fever, ...	—	—	—	—	—	—	—	—	—	1	—	—	—	1	1
Smallpox, ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles, ...	56	101	43	3	—	—	—	—	—	—	1	—	—	204	427
Scarlet Fever, ...	5	10	17	13	3	1	—	4	2	—	—	—	—	55	88
Whooping-cough, ...	39	30	21	5	—	—	—	—	—	—	—	—	—	95	182
Diphtheria and Membranous Croup, ...	7	20	18	14	1	—	—	1	—	—	1	—	—	62	132
Croup, ...	1	2	—	1	—	—	—	—	—	—	—	—	—	4	8
Influenza, ...	9	7	4	1	—	3	7	10	21	28	36	37	36	199	383
Erysipelas, ...	4	1	—	—	1	—	—	1	—	4	5	3	2	21	47
Septicæmia, ...	6	2	1	1	—	—	1	2	—	—	2	1	1	17	44
Other Septic Diseases, ...	3	1	1	—	—	—	—	1	2	3	1	1	3	16	45
Pulmonary Tuberculosis, ...	6	3	6	4	14	58	69	95	52	37	19	5	3	371	826
Tuberculous Meningitis, ...	5	18	23	6	6	3	3	4	—	—	—	—	—	68	147
Abdominal Tuberculosis	3	4	4	3	4	3	1	2	3	1	1	—	—	29	65
Other Tuberculous Diseases, ...	3	4	1	2	3	7	3	5	5	6	5	—	—	44	79
Cancer (Malignant Disease), ...	1	1	—	—	1	—	2	16	67	151	224	178	87	728	1,346
Rheumatic Fever, ...	—	—	—	2	4	5	3	2	2	3	3	1	1	26	48
Alcoholism, ...	—	—	—	—	—	—	—	—	—	1	—	—	—	1	6
Cerebro-Spinal Fever, ...	4	6	4	1	—	3	—	—	1	—	—	—	—	19	48
Meningitis (not Tubercular), ...	12	2	6	3	2	2	1	—	—	2	—	—	—	30	96
Cerebral Hæmorrhage (Apoplexy),	—	—	—	—	—	—	—	4	10	44	89	123	106	376	731
Other Nervous Diseases, ...	39	11	8	4	13	7	7	9	17	32	33	66	33	279	618
Organic Heart Disease, ...	2	—	—	8	8	4	12	32	45	79	156	241	174	761	1,446
Other Circulatory Diseases, ...	—	1	2	3	1	4	6	16	22	43	46	74	87	305	746
Bronchitis, ...	45	9	6	1	1	2	1	6	10	30	47	108	115	381	752
Pneumonia (all forms), ...	212	114	54	12	7	3	12	23	46	40	57	56	62	698	1,702
Other Respiratory Diseases, ...	13	3	3	—	1	—	2	5	7	13	15	16	28	106	184
Diarrhœa and Enteritis, ...	132	26	10	2	—	—	1	3	3	2	7	7	5	198	450
Appendicitis and Typhlitis, ...	—	—	2	10	5	4	3	2	4	7	5	2	—	44	92
Cirrhosis of the Liver, ...	—	—	—	—	—	1	—	—	4	1	—	2	1	9	34
Other Digestive Diseases, ...	25	—	10	4	2	3	5	13	36	20	62	30	28	238	465
Nephritis & Bright's Disease, ...	—	2	5	5	3	3	8	19	24	35	49	45	18	216	391
Puerperal Fever ...	—	—	—	—	—	4	17	28	20	—	—	—	—	69	69
Other Accidents and Diseases of Pregnancy and Parturition, ...	—	—	—	—	—	3	12	39	27	2	—	—	—	83	83
Congenital Debility, Malformation, Premature Birth, ...	335	3	—	4	1	—	—	—	—	—	—	—	—	343	890
Violence, ...	20	12	20	16	4	4	7	12	18	19	23	19	21	195	581
Unknown, ...	2	—	—	—	—	—	—	—	2	—	1	1	1	7	15
All others, ...	60	12	4	9	5	10	8	28	55	67	102	169	305	834	1,525
All Causes, ...	1,049	405	273	137	91	139	192	382	505	672	992	1,185	1,117	7,139	14,808
Inward Transfer Deaths, ...	5	4	3	6	6	15	18	30	43	54	59	62	63	368	820
TOTAL, ...	1,054	409	276	143	97	154	210	412	548	726	1051	1,247	1,180	7,507	15,628
Added Area (from 15th May), corrected for Transfers, ...	6	1	—	1	—	1	6	4	5	3	8	10	10	55	103

TABLE X.—GLASGOW, 1926.—DEATHS OCCURRING IN INSTITUTIONS FOR THE TREATMENT OF THE SICK AND INFIRM, NURSING HOMES, &c.

DISEASE.	Parish Council Hospitals.	General Hospitals and Infirmaries.	Local Authority Hospitals.	Nursing Homes, Asylums, &c.	TOTALS 1926.	TOTALS 1925.	Outward Transfer Deaths 1926.
1. Enteric Fever, ...	...	1	15	...	16	13	...
2. Typhus Fever, ...	...	...	1	...	1	...	...
3. Smallpox, ...	...	...	...	...	...	...	...
4. Measles, ...	16	1	221	...	238	67	2
5. Scarlet Fever, ...	2	...	82	...	84	67	7
6. Whooping-cough, ...	3	...	98	...	101	355	4
7. Diphtheria and M. Croup, ...	4	2	119	...	125	102	2
8. Croup, ...	...	...	4	...	4	1	1
9. Influenza, ...	41	9	18	4	72	37	...
10. Erysipelas, ...	...	...	34	...	34	36	4
11. Septicæmia, ...	3	23	7	1	34	36	9
11A Other Septic Diseases, ...	11	14	5	3	33	36	14
12. Pulmonary Tuberculosis, ...	168	28	225	5	426	502	17
13. Tuberculous Meningitis, ...	16	46	43	1	106	109	17
14. Abdominal Tuberculosis, ...	15	11	13	1	40	38	14
15. Other Tuberculous Diseases,	25	13	5	1	44	55	14
16. Cancer (Malignant Disease),	247	288	6	39	580	519	220
17. Rheumatic Fever, ...	3	16	2	1	22	11	6
18. Alcoholism, ...	...	..	...	...	...	2	...
19. Cerebro-Spinal Fever, ...	1	7	33	...	41	35	7
20. Meningitis (not Tuberculous),	7	31	8	1	47	41	11
21. Cerebral Hæmorrhage (Apopl.)	157	41	1	14	213	193	17
22. Other Nervous Diseases, ...	208	57	9	15	289	297	68
23. Organic Heart Disease, ...	453	89	6	15	563	448	53
24. Other Circulatory Diseases,	168	90	10	9	277	292	33
25. Bronchitis, ...	114	28	15	13	170	215	9
26. Pneumonia (all forms), ...	278	135	515	9	937	910	63
27. Other Respiratory Diseases,	24	21	4	1	50	45	14
28. Diarrhœa and Enteritis, ...	87	99	30	4	220	169	39
29. Appendicitis and Typhlitis,	1	66	...	19	86	86	68
30. Cirrhosis of the Liver, ...	9	5	...	2	16	16	7
31. Other Digestive Diseases, ...	45	204	7	19	275	227	158
32. Nephritis and Bright's Disease,	81	83	5	9	178	166	37
33. Puerperal Fever, ...	1	20	45	1	67	60	9
34. Other Accidents and Diseases of Pregnancy and Parturition,	14	45	2	4	65	84	18
35. Congenital Debility and Malformation, including Premature Birth, ...	99	166	13	13	291	235	33
36. Violence, ...	15	278	8	2	303	298	130
37. Unknown, ...	...	3	...	...	3	2	2
38. All other causes, ...	200	219	22	45	486	511	162
OLD CITY, ...	2,516	2,139	1,631	251	6,537	6,316	1,269
ADDED AREA (from 15th May),	4	...	5	...	9	...	188

Deaths of Glasgow persons in institutions beyond the City boundaries are not shown in the above table because of difficulty in identifying these as institutional deaths.

TABLE XI.—GLASGOW, 1926.—DEATHS IN INSTITUTIONS (INTRA MURAL) OF PERSONS BELONGING TO THE CITY BUT WITH NO HOME ADDRESS.

DISEASE.	Poor Law Institutions.	Model Lodging-houses.	General Hospitals.	Infectious Diseases Hospitals.	Homes for Old Men, Women, and Orphans, &c., Asylums, Prisons.	Total.
1. Enteric Fever, ...	...	...	...	...	...	...
2. Typhus Fever, ...	...	...	...	...	...	...
3. Smallpox, ...	...	...	...	...		...
4. Measles, ...	5	2	...	...	...	7
5. Scarlet Fever, ...	...	...	...	2	1	3
6. Whooping-cough, ...	2	1	...	...	...	3
7. Diphtheria and Membranous Croup, ...	1	1	...	1	1	4
8. Croup, ...	...	...	...	...	...	...
9. Influenza, ...	1	9	1	...	2	13
10. Erysipelas	...	...	...	...	...	...
11. Septicæmia, ...	...	1	...	...	1	2
11A Other Septic Diseases, ...	...	5	...	...	1	6
12. Pulmonary Tuberculosis, ...	5	29	...	...	7	41
13. Tuberculous Meningitis, ...	1	...	1	...	1	3
14. Abdominal Tuberculosis, ...	...	...	...	...	...	...
15. Other Tuberculous Diseases, ...	1	2	...	...	...	3
16. Cancer (Malignant Disease), ...	2	45	3	...	12	62
17. Rheumatic Fever, ...	...	...	...	...	...	...
18. Alcoholism, ...	...	1	...	...	...	1
19. Cerebro-spinal Fever, ...	...	...	2	...	...	2
20. Meningitis (not Tuberculous).	...	...	...	...	...	...
21. Cerebral Hæmorrhage (Apopl.)	1	24	...	...	9	34
22. Other Nervous Diseases, ...	6	17	...	...	7	30
23. Organic Heart Disease, ...	9	59	1	...	28	97
24. Other Circulatory Diseases, ...	1	30	1	...	14	46
25. Bronchitis, ...	4	37	1	...	7	49
26. Pneumonia (all forms), ...	7	41	2	4	7	61
27. Other Respiratory Diseases, ...	...	4	...	...	1	5
28. Diarrhœa and Enteritis, ...	8	1	1	...	3	13
29. Appendicitis and Typhlitis, ...	...	1	...	...	...	1
30. Cirrhosis of the Liver, ...	...	...	...	...	...	...
31. Other Digestive Diseases, ...	2	6	2	...	4	14
32. Nephritis and Bright's Disease,	1	12	...	...	5	18
33. Puerperal Fever, ...	...	...	...	...	...	...
34. Other Accidents and Diseases of Pregnancy and Parturition, ...	...	...	...	...	...	...
35. Cong. Debility, Malformation, including Premature Birth,	26	1	4	4	14	49
36. Violence, ...	2	14	4	...	5	25
37. Unknown, ...	...	1	...	...	...	1
38. All others, ...	3	66	3	...	15	87
OLD CITY, ...	88	410	26	11	145	680
ADDED AREA (from 15th May, to end of year), ...	2	...	...	...	...	2

TABLE XII.—GLASGOW.—DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,000 BIRTHS IN EACH MUNICIPAL WARD, FOR THE YEAR 1926.

MUNICIPAL WARDS.	DEATHS – 1 YEAR.	Death-rate per 1,000 Births.		
	1926.	1926.	1925.	1924.
1. Shettleston and Tollcross, ...	91	108	113	124
2. Parkhead, ...	96	103	103	114
3. Dalmarnock, ...	148	118	119	142
4. Calton, ...	121	112	128	148
5. Mile end, ...	131	163	137	162
6. Whitevale, ...	60	92	110	135
7. Dennistoun, ...	22	74	62	68
8. Provan, ...	128	143	94	125
9. Cowlairs, ...	36	71	92	80
10. Springburn, ...	29	74	86	122
11. Townhead, ...	64	99	110	114
12. Exchange, ...	60	120	111	136
13. Blythswood.	43	135	78	120
14. Anderston, ...	78	95	136	116
15. Sandyford, ...	47	89	116	110
16. Park, ...	17	68	73	60
17. Cowcaddens, ...	123	104	109	143
18. Woodside, ...	90	100	111	105
19. Ruchill, ...	51	79	85	113
20. North Kelvin, ...	30	68	69	113
21. Maryhill, ...	49	88	90	81
22. Kelvinside, ...	9	49	36	52
23. Partick East, ...	58	90	112	118
24. ,, West, ...	50	99	91	94
25. Whiteinch, ...	33	63	94	60
26. Hutchesontown, ...	110	98	96	132
27. Gorbals, ...	180	128	102	139
28. Kingston, ...	111	118	107	126
29. Kinning Park, ...	79	84	84	139
30. Govan, ...	111	106	92	113
31. Fairfield, ...	57	86	71	80
32. Pollokshields, ...	25	71	41	48
33. Camphill, ...	22	82	44	66
34. Pollokshaws, ...	28	89	68	97
35. Govanhill, ...	29	59	70	72
36 Langside, ...	10	44	27	50
37. Cathcart, ...	9	52	31	80
Institutions, &c., ...	78	...	...	...
OLD CITY, ...	2,513	103	101	118
+ INWARD TRANSFERS, ...	2,532	104	102	119
ADDED AREA (from 15th May), including Inward Transfers, ...	16	...	...	...

Cause of Death.	Age in Weeks.				Total – 4 weeks.	Age in Months.											Total – 1 year.
	– 1	– 2	– 3	– 4		– 2	– 3	– 4	– 5	– 6	– 7	– 8	– 9	– 10	– 11	– 12	
I. Immaturity, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	547
(a) Premature Birth, ...	226	27	16	8	277	7	6	1	1	...	...	...	...	...	...	...	292
(b) Congenital Malformations, ...	22	2	6	3	33	11	4	1	1	2	...	...	1	...	...	...	53
(c) Atelectasis, ...	10	...	...	...	10	1	...	...	...	...	...	...	...	...	...	.	11
(d) Atrophy and Debility, ...	71	16	15	11	113	13	26	17	9	5	2	1	1	1	...	3	191
II. Diseases of Respiratory System,	6	8	9	8	31	19	24	28	33	28	30	32	32	41	32	25	355
III. Diseases of Digestive System, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	193
(a) Diarrhœal, ...	1	4	4	9	18	11	26	25	19	19	12	8	7	8	7	4	164
(b) Others, ...	1	2	1	2	6	3	1	5	3	...	1	2	4	1	1	2	29
IV. Diseases of Nervous System, ...	11	5	3	4	23	7	10	7	12	6	9	5	3	3	4	8	97
V. Tuberculous Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21
(a) Abdominal Tuberculosis, ...	...	...	...	...	...	..	...	..	...	...	...	1	...	1	...	...	2
(b) Tuberculous Meningitis, ...	...	...	...	...	...	...	1	...	2	4	...	3	1	1	...	2	14
(c) Other Forms, ...	...	...	...	...	...	...	...	...	1	1	...	2	...	...	1	...	5
VI. Accidents of Birth, ...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	20
(a) Injury.	13	3	...	1	17	...	...	...	...	...	...	...	...	...	...	...	17
(b) Umbilical Hæmorrhage, ...	3	...	...	...	3	...	...	...	...	...	...	..	...	...	...	...	3
VII. Infectious Diseases, ...	...	...	...	...	...	...	...	...	...	...	...	. .	...	...	...	..	133
(a) Whooping-cough, ...	...	...	...	...	...	1	3	5	5	1	7	4	1	1	3	3	34
(b) Measles.	...	...	...	...	...	2	...	...	4	5	1	4	11	9	19	12	67
(c) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	1	...	1
(d) Cerebro-Spinal Fever, ...	...	...	...	...	...	...	...	1	2	1	1	3	2	1	2	2	15
(e) Erysipelas, ...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	2
(f) Diphtheria and Mem. Croup,	...	...	...	...	...	1	...	1	...	...	2	...	1	1	5	3	14
(g) Chicken-pox, ...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII. Syphilis, ...	1	1	...	2	4	3	2	1	1	2	...	...	...	...	...	...	13
IX. Suffocation, ...	...	1	...	...	1	3	1	...	...	...	...	...	...	...	...	..	5
X. Other Violence, ...	1	1	2	1	5	4	...	1	2	...	...	1	...	1	2	4	20
XI. All Other Causes, ...	7	2	5	...	14	7	4	4	3	2	5	4	6	6	2	3	60
Old City, ...	373	72	61	49	555	94	108	98	98	76	70	0	70	75	79	71	1,464
+ Inward Transfers, ...	373	72	61	49	555	96	108	99	100	76	73	71	71	75	81	73	1,478
Added Area (from 15th May), ...	4	...	1	...	5	2	...	...	...	...	...	...	2	...	...	1	10

TABLE XIV.—Glasgow, 1926.—FEMALE Infant Deaths at Given Ages and from Several Causes.

Cause of Death.	Age in Weeks.				Total – 4 weeks.	Age in Months.											Total – 1 year.
	– 1	– 2	– 3	– 4		– 2	– 3	– 4	– 5	– 6	– 7	– 8	– 9	– 10	– 11	– 12	
I. Immaturity, ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**344**
(a) Premature Birth, ...	120	18	15	6	159	4	4	2	...	1	...	...	...	...	...	...	170
(b) Congenital Malformations, ...	15	1	1	1	18	4	3	...	1	3	...	2	...	...	...	1	32
(c) Atelectasis, ...	8	...	...	1	9	...	...	..	...	...	...	...	...	...	...	...	9
(d) Atrophy and Debility, ...	43	14	13	9	79	14	13	14	4	3	3	...	...	2	1	...	133
II. Diseases of Respiratory System,	4	5	5	4	18	17	24	18	18	27	22	28	22	31	26	19	**270**
III. Diseases of Digestive System,	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	**157**
(a) Diarrhœal, ...	...	3	1	4	8	3	15	19	26	12	11	5	9	7	8	9	132
(b) Others, ...	1	...	1	1	3	3	4	1	3	3	3	1	1	1	1	1	25
IV. Diseases of Nervous System. ..	5	2	3	4	14	4	8	6	3	3	1	2	1	1	6	2	**51**
V. Tuberculous Diseases. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**17**
(a) Abdominal Tuberculosis, ...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	1	3
(b) Tuberculous Meningitis, ...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	2	5
(c) Other Forms, ...	...	...	...	...	...	1	1	...	...	...	1	1	...	...	3	2	9
VI. Accidents of Birth.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**15**
(a) Injury, ...	7	...	...	...	7	1	...	...	...	...	...	...	...	...	...	...	8
(b) Umbilical Hæmorrhage, ...	2	5	...	...	7	...	...	...	...	...	...	...	...	...	...	...	7
VII. Infectious Diseases.	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	**116**
(a) Whooping-cough, ...	...	...	...	...	...	4	4	...	1	2	3	7	5	4	5	4	39
(b) Measles,...	...	...	...	...	...	...	1	...	1	4	3	5	10	12	9	11	56
(c) Scarlet Fever, ...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	2	5
(d) Cerebro-Spinal Fever, ...	...	...	...	...	...	...	...	1	...	1	1	1	...	...	...	...	4
(e) Erysipelas, ...	...	...	...	...	...	1	...	...	1	...	2	...	...	...	..	...	4
(f) Diphtheria and Mem. Croup,	...	...	...	1	1	...	...	...	...	...	1	...	2	...	1	2	7
(g) Chicken-pox, ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
VIII. Syphilis, ...	...	...	...	...	...	...	...	2	2	2	1	...	...	...	...	...	**7**
IX. Suffocation.	1	...	...	...	1	3	2	...	1	...	...	...	...	...	...	...	**7**
X. Other Violence, ...	4	...	...	1	5	4	1	1	...	2	...	...	...	...	...	...	**13**
XI. All Other Causes, ...	7	3	3	1	14	5	5	2	4	4	2	2	3	7	2	2	**52**
Old City, ...	217	51	42	33	343	68	85	66	65	69	56	55	54	66	64	58	**1,049**
Added Area [illegible]	[illegible]		1	[illegible]	[illegible]		[illegible]						1				[illegible]

TABLE XV.—Glasgow, 1924-1926.—Abstract of Notifications under Notification of Births Act, 1907, and Results of Visits.

	1924	1925	1926*
'otal Number of Notifications, ...	26,623	26,654	25,785
)octor at Home, ...	7,521	7,414	7,255
)octor in Institution, ...	3,208	3,263	3,799
Iaternity Hospital (Outdoor) Nurse, ...	3,614	3,840	3,600
)ther Institutional Nurse, ...	602	149	—
'ertified Midwife, ...	11,636	11,949	11,105
)thers, ...	42	39	26
'otal Cards issued, ...	19,102	19,240	18,530
'otal Cards returned, ...	19,243	18,927	18,956
'ull Information, ...	18,144	17,844	17,938
)octor found in attendance, ...	42	43	41
'rong Address—Not Traced, ...	1	—	—
)thers, ...	1,056	1,040	977

'ABLE XVI.—Glasgow, 1924-1926.—BIRTHS Notified showing Medically and not Medically Attended.

	1924	1925	1926*
)tifications Received—*less Duplicates*—			
Total, ...	26,623	26,654	25,785
Live-births, ...	25,567	25,592	24,825
Still-births, ...	1,056	1,062	960
Per cent. Still-births to Total, ...	4·0	4·0	3·7
)dically attended—			
Total Births at Home, ...	7,521	7,414	7,255
In Institutions, ...	3,208	3,263	3,799
Total, ...	10,729	10,677	11,054
Per cent., ...	40·3	40·1	42·9
Still-births at Home, ...	257	252	256
Still-births in Institutions, ...	353	349	322
t Medically attended—			
Maternity Hospital, Outdoor Nurse, ...	3,614	3,840	3,600
Other Institutional Nurses, ...	602	149	—
Certified Midwives, ...	11,636	11,949	11,105
Others, ...	42	39	26
Total, ...	15,894	15,977	14,731
Per cent., ...	59·7	59·9	57·1
Still-births.	446	461	382

* Figures for 1926 include Added Area.

TABLE XVII.—Glasgow, 1924-1926.—Cases of Infectious Disease Registered and Numbers Treated in Hospital.

	1924		1925		1926 (Old City).		Added Area from 15th Ma	
	Hosp.	Home.	Hosp.	Home.	Hosp.	Home.	Hosp.	Hom
A.—Notifiable—								
Fevers—Typhus, ...	...	...	...	...	8	...	...	...
Enteric, ...	77	5	42	2	96	4	...	...
Continued and Undefined,	19	...	8	1	2	2	1	...
Puerperal, ...	227	12	284	16	300	7	2	..
Smallpox, ...	2	...	...	...	...	...	...	...
Scarlet Fever, ...	3,019	165	3,650	162	4,502	182	52	7
Diphtheria and Membranous Croup, ...	1,822	77	1,678	58	2,228	66	27	2
Erysipelas, ...	419	439	486	516	520	496	2	7
Cholera, ...	...	...	...	...	...	...	...	...
Cerebro-Spinal Fever, ...	61	5	54	8	60	6	...	..
Ophthalmia Neonatorum, ...	62	530	54	561	63	599	...	1
Trachoma, ...	8	37	10	31	11	32	...	...
Acute Encephalitis Lethargica,	305	86	47	26	21	22	1	1
Acute Polio-Encephalitis, ...	2	1	1	1	2	1	...	...
Acute Poliomyelitis, ...	7	2	5	3	2	8	...	...
Acute Primary Pneumonia, ...	3,687	3,059	3,446	2,356	3,423	2,734	5	9
Acute Influenzal-Pneumonia, ...	268	258	177	126	260	272	...	1
Malaria, ...	6	19	2	17	7	15	...	...
Dysentery, ...	4	10	10	2	7	5	...	...
Trench Fever, ...	...	...	...	...	...	...	...	...
Infective Jaundice, ...	...	...	...	...	1	...	...	...
Pulmonary Tuberculosis, ...	963	866	742	858	814	918	26	37
Other Forms of Tuberculosis, ...	415	806	315	800	311	688	6	26
B.—Not Notifiable—								
Measles, ...	1,029	7,287	633	5,874	1,064	15,053	...	4
German Measles, ...	48	459	50	200	67	399	...	2
Whooping-cough, ...	917	9,131	878	11,316	271	3,547	2	18
Chickenpox, ...	224	4,852	199	6,958	153	5,565	2	66
Influenza, ...	2	...	...	...	...	...	...	...
Others, ...	3[a]	...	2[b]	...	4[c]	...	...	...
Totals, ...	13,596	28,106	12,773	29,892	14,197	30,621	126	181

(a) Enteritis, 3: (b) Anthrax, 1; Beri-beri, 1; (c) Anthrax, 1; Enteritis, 2; Mumps, 1.

TABLE XVIII.—GLASGOW, 1922-1926.—CASE-RATES *per Million* FOR INFECTIOUS DISEASES.

	CASE-RATES PER MILLION.				
	1922	1923	1924	1925	1926*
-Notifiable—					
Fevers—Typhus, ...	18	2	...	...	7
Enteric.	79	116	75	40	91
Continued and Undefined, ...	6	20	17	8	4
Puerperal, ...	272	255	216	273	279
Smallpox, ...	...	...	2	...	...
Scarlet Fever, ...	3,212	3,277	2,905	3,472	4,252
Diphtheria and Membranous Croup, ..	1,561	1,623	1,733	1,581	2,082
Erysipelas, ...	1,041	940	783	913	922
Cholera, ...	...	...	...	...	...
Cerebro-Spinal Fever, ...	62	59	60	56	60
Ophthalmia Neonatorum, ...	708	570	540	560	601
Trachoma, ...	46	38	41	37	39
Acute Encephalitis Lethargica, ...	18	101	357	66	39
Acute Polio-Encephalitis, ...	2	1	3	2	3
Acute Poliomyelitis, ...	8	4	8	7	9
Acute Primary Pneumonia, ...	5,516	3,991	6,155	5,285	5,589
Acute Influenzal-Pneumonia, ...	559	109	480	276	483
Malaria, ...	16	23	23	17	20
Dysentery, ...	13	6	13	11	11
Trench Fever, ...	...	...	...	...	...
Infective Jaundice, ...	...	...	...	...	1
Pulmonary Tuberculosis, ...	1,806	1,584	1,669	1,457	1,572
Other Forms of Tuberculosis, ...	970	1,133	1,114	1,016	907
-Not Notifiable—					
Measles, ...	17,440	9,462	7,588	5,927	14,630
German Measles, ...	119	244	463	228	423
Whooping-cough, ...	2,634	4,538	9,168	11,109	3,466
Chickenpox, ...	3,279	5,416	4,632	6,519	5,191
Influenza, ...	10	...	2	...	...
Cancrum Oris, ...	1	...	...	...	...
Others, ...	9	10	3	2	4
Totals, ...	39,405	33,522	38,050	38,862	40,684

* Added Area not included.

TABLE XI.

CASES OF INFECTIOUS DISEASE REGISTERED IN EACH MONTH—SHOWING NU

	INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889																			
	FEVERS								5		6		7		8		9		10		11	12
	1 Enteric, including Paratyphoid		2 Continued and Undefined		3 Puerperal		4 Typhus		Scarlet Fever		Diphtheria and Membranous Croup		Erysipelas		Cerebro-Spinal Fever		Ophthalmia Neonatorum		Trachoma		Acute Encephalitis Lethargica	Acute Polio-Encephalitis
	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	
Jan.	5	2	...	...	27	1	...	...	266	18	176	5	59	57	6	1	5	41	...	2	2	
Feb.	1	...	...	...	24	...	...	...	324	13	209	5	44	46	2	...	3	56	...	7	3	
Mar.	5	...	...	1	24	...	...	...	346	16	199	1	36	42	5	...	11	51	1	1	4	
April	5	...	...	...	20	...	...	...	238	14	188	5	40	36	6	2	6	60	...	6	1	
May	6	...	...	...	27	1	...	...	285	9	153	8	37	29	5	...	6	60	...	1	...	
June	7	...	...	...	25	1	...	...	251	5	154	7	28	29	11	1	6	49	...	2	1	
July	14	1	...	...	21	1	5	...	251	5	118	6	33	26	3	..	4	37	...	2	3	
Aug.	19	1	...	...	20	...	3	...	363	3	182	1	27	29	5	2	2	47	3	1	2	
Sept.	16	...	...	...	17	...	...	...	562	9	187	2	36	36	4	...	4	46	1	2	2	
Oct.	10	...	1	1	24	2	...	...	598	23	218	3	42	46	4	...	6	59	2	2	2	
Nov.	6	...	...	...	42	1	...	...	600	32	220	13	61	54	5	...	2	48	...	2	4	
Dec.	2	...	1	...	29	..	...	...	418	35	224	10	77	66	4	...	8	45	4	4	1	
	96	4	2	2	300	7	8	...	4502	182	2228	66	520	496	60	6	63	599	11	32	25	

SGOW.

TED IN HOSPITALS AND UNDER SUPERVISION AT HOME DURING 1926.

FECTIOUS DISEASES REGULATIONS, 1919							TUBERCULOSIS REGULATIONS, 1914				OTHER INFECTIOUS DISEASES									
4	15		16		17		18		19		20		21		22		23			
Pneumonia	Acute Influenzal-Pneumonia		Malaria		Dysentery		Pulmonary		Other Forms		Measles		German Measles		Whooping-cough		Chicken-pox		All Causes	
Home	Hosp.	Home	Hosp.	Home	Hosp	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home	Hosp.	Home
174	13	8	...	1	...	...	78	73	22	62	232	4298	15	44	23	353	16	493	1207	5633
218	7	6	1	1	2	1	82	86	33	54	293	5707	10	61	14	374	17	378	1328	7015
485	32	38	2	3	1	...	92	94	35	74	321	3565	10	68	40	427	5	365	1583	5232
521	123	168	...	...	...	1	80	82	23	69	125	606	9	45	24	478	9	232	1296	2325
144	13	12	...	2	1	...	81	69	33	69	53	379	9	66	26	387	8	342	969	1580
120	5	5	...	...	...	...	76	74	30	61	18	270	5	67	39	346	8	586	822	1624
81	5	...	1	...	...	...	55	61	18	45	9	11	1	5	26	136	20	73	727	491
57	6	2	...	...	...	3	51	67	27	53	5	14	1	5	20	268	18	170	889	725
67	5	1	...	4	2	...	56	62	23	49	...	25	1	7	9	162	8	370	1140	844
120	14	1	...	3	...	...	67	67	24	40	2	55	...	18	8	130	20	657	1268	1231
381	18	17	...	1	...	...	54	86	19	44	2	63	4	6	14	214	8	1004	1587	1968
366	19	14	3	...	1	...	42	97	24	68	4	60	2	7	28	272	16	895	1376	1953
2734	260	272	7	15	7	5	814	918	311	688	1064	15053	67	399	271	3547	153	5565	14192	30621
Add others—Anthrax, 1; Infective Jaundice, 1; Enteritis, 2; Mumps, 1, ...																			5	...
																			14197	30621

Added Area not included.

TABLE XX.—HOSPITAL BED ACCOMMODATION FOR INFECTIOUS DISEASES IN GLASGOW SINCE 1865 (EXCLUDING TUBERCULOSIS).

Year.	Parish.			Glasgow Royal Infirmary.	Local Authority.						Total Beds.	Population in Thousands.	Beds per Thousand
	City.	Barony.	Govan.		Parliamentary Road.	Belvidere Fever.	Belvidere Smallpox.	Ruchill.	Shieldhall.	Knightswood.			
1865	100	120	54	200	136	...	...	...	...	...	610	428	1·
1866	100	120	54	175	136	...	...	...	...	...	585	438	1·
1867	...	120	54	100	136	...	...	...	...	...	410	446	0·
1869	...	120	54	135	136	...	...	...	...	...	445	464	1·
1870	...	120	54	100	250	250	...	...	...	...	774	471	1·
1872	...	120	...	100	250	250	...	...	...	...	720	495	1·
1875	...	...	...	100	250	250	...	...	...	...	600	500	1·
1876	...	...	...	...	250	250	...	...	...	...	500	502	1·
1878	...	...	...	...	120	250	150	...	...	...	520	507	1·
1880	...	...	...	...	120	250	150	...	...	...	520	510	1·
1881	...	...	...	...	120	370	150	...	...	...	640	512	1·
1882	...	...	...	...	120	220	150	...	...	...	490	518	1·
1887	...	...	...	...	120	390	150	...	...	...	660	545	1·
1893	...	...	...	...	200	390	150	...	...	...	740	678	1·
1900	...	...	...	...	200	390	150	440	...	...	1180	744	1
1901	...	...	...	...	200	390	220	440	...	...	1250	764	1
1906	...	...	...	...	...	390	220	440	...	...	1050	836	1
1910	...	...	...	...	...	390	220	542	...	...	1152	884	1
1913	...	...	...	...	...	390	220	542	100	81	1333	1032	1
1915	...	...	...	...	...	390	220	542	100	10	1262	1035	1
1923	...	...	...	...	...	610	...	542	100	114	1366	1089	1
1925	...	...	...	...	...	610	...	542	100[2]	134	1386	1096	1
1926	...	...	...	...	...	610	...	542[1]	120	134[3]	1406	1098	1

[1] Also 272 beds for Tuberculosis.
[2] ,, 24 ,, ,,
[3] ,, 88 ,, ,,

The City has also a part interest in Lightburn Hospital—about 7-8 beds.
,, ,, ,, Darnley ,, ,, 20 ,,
,, ,, ,, Blawarthill ,, .

TABLE XX.—(*Continued*).

STITUTIONAL ACCOMMODATION FOR PATIENTS SUFFERING FROM TUBERCULOSIS:—

	Males.	Females.	Total.
(1) SANATORIA—			
Local Authority, Bellefield, ...	—	45	45
Ochil Hills, ...	41	9	50*
Bridge of Weir, ...	27	43	70*
Dunblane, ...	8	4	12
Darnley, ...	10	—	10
Seaforth, ...	7	7	14
Hairmyres, ...	7	—	7*
Others, ...	—	—	—
Total Beds in Sanatoria,	100	108	208

	Males.	Females.	Total.
(2) HOSPITALS—			
Local Authority, Ruchill, ...	136	136	272
,, Knightswood,	88	—	88
,, Robroyston, ...	224	224	448
,, Auxiliary, ...	34	66	100
Lanfine Home, ...	15	10	25*
Strathblane Hospital, ...	5	5	10
Blawarthill, ...	1	2	3
Total Beds in Hospitals,	503	443	946
(3) POOR LAW INSTITUTIONS, ...	128	90	218*
Total Institutional Accommodation, ...	731	641	1,372

* The number is not fixed; these figures are based on an average experience of 12 months.

TABI

SHOWING NUMBER, AVERAGE RESIDENCE, AN

ORDINARY NETT EXPENDITURE (as per Treasurer's Statement), excluding Interest a Sinking Fund Charges, and Cost of treating Patients from Rutherglen :—

Infectious Diseases Hospital, Belvidere, ...	£70,978	15	6	
Infectious Diseases Hospital, Ruchill, ...	100,905	5	2	
Infectious Diseases Hospital, Shieldhall, ...	14,723	3	1	
Infectious Diseases Hospital, Knightswood,	25,460	3	10	
Sanatorium and Auxiliary Hospital, Robroyston, ...	57,146	15	10	
				£269,214 3 5

Average Daily Number of Patients in Infectious Diseases Hospital, Belvidere, ... 7
Average Daily Number of Patients in Infectious Diseases Hospital, Ruchill, ... 9
Average Daily Number of Patients in Infectious Diseases Hospital, Shieldhall, ... 2
Average Daily Number of Patients in Infectious Diseases Hospital, Knightswood, 0
Average Daily Number of Patients in Robroyston Sanatorium and Auxiliary Hospital, ... 9

Average Daily Number of Patients in Hospitals, ... 2,97

	Belvidere Hospital.	Ruchill Hospital.	Shieldhall Hospital.	Knightswood Hospital.	Robroyston Hospital.	
Patients remaining at 31st May, 1926, ...	521	706	94	182	542	245
Patients admitted during 1926-1927, ...	5,863	5,786	1,087	1,616	605	1457
Total under Treatment, 1926-1927, ...	6,384	6,492	1,181	1,798	1,147	1702
Patients dismissed during 1926-1927, ...	5,849	5,699	1,080	1,565	620	1413
Patients remaining at 31st May, 1927, ...	535	793	101	233	527	289

Average Residence of Patients dismissed, 1926-1927, ... 55·03 days.

XI.

OST OF TREATMENT OF PATIENTS, 1926-1927.

verage Daily Expenditure, ...	£737	11	6
verage Daily Cost per Patient, ...	0	6	4
verage Cost of Treatment per Patient, ...	17	9	11
verage Cost of Bed per Year, ...	116	1	1

STATEMENT SHOWING PATIENTS CLASSIFIED AS TO DISEASE, AVERAGE RESIDENCE OF PATIENTS DISMISSED, AND AVERAGE COST AT THE DAILY RATE GIVEN ABOVE.

Disease.	Number Dismissed.	Average Residence.	Average Cost.		
Typhus, ...	8	46·62 days	£14	16	6
Smallpox, ...	3	22·67 ,,	7	4	2
Enteric, ...	102	53·09 ,,	16	17	7
Anthrax, ...	—	—		—	
Puerperal, ...	259	33·22 ,,	10	11	3
Scarlet, ...	4,633	47·08 ,,	14	19	5
Diphtheria, ...	2,377	45·15 ,,	14	7	1
Encephalitis Lethargica, ...	26	44·62 ,,	14	3	9
Poliomyelitis, ...	1	77·00 ,,	24	9	9
Trachoma, ...	37	45·97 ,,	14	12	4
Acute Primary Pneumonia and Influenzal-Pneumonia, ...	3,193	29·67 ,,	9	8	8
Tropical Diseases, ...	9	16·33 ,,	5	3	10
Measles and German Measles, ...	249	42·10 ,,	13	7	9
Whooping-Cough, ...	559	45·97 ,,	14	12	4
Phthisis, ...	1,040	126·71 ,,	40	5	9
Surgical Tuberculosis, ...	421	380·80 ,,	121	1	7
Other Infectious Diseases, ...	734	28·40 ,,	9	0	7
All other Diseases, ...	1,162	24·34 ,,	7	14	9
	14,813				

* Includes Erysipelas, Cerebro-spinal Fever, Chickenpox, and Influenza.

† Includes persons sent in by mistaken diagnosis.

TABLE XXII.—GLASGOW.—STATUTORY DECLARATIONS OF CONSCIENTIOUS OBJECTION TO VACCINATION IN EACH WARD DURING 1926.

MUNICIPAL WARDS.	Conscientious Objections Lodged.	Percentage of Births Registered.
1. Shettleston and Tollcross, ...	167	20
2. Parkhead, ...	179	19
3. Dalmarnock, ...	243	19
4. Calton, ...	179	17
5. Mile-end, ...	134	17
6. Whitevale, ...	125	19
7. Dennistoun, ...	49	17
8. Provan, ...	191	21
9. Cowlairs, ...	173	34
10. Springburn, ...	156	40
11. Townhead, ...	150	23
12. Exchange, ...	93	19
13. Blythswood, ...	58	18
14. Anderston, ...	141	17
15. Sandyford, ...	91	17
16. Park, ...	39	16
17. Cowcaddens, ...	192	16
18. Woodside, ...	120	13
19. Ruchill, ...	163	25
20. North Kelvin, ...	99	23
21. Maryhill, ...	85	15
22. Kelvinside, ...	13	7
23. Partick (East), ...	117	18
24. ,, (West), ...	137	27
25. Whiteinch, ...	132	25
26. Hutchesontown, ...	329	29
27. Gorbals, ...	266	19
28. Kingston, ...	235	25
29. Kinning Park, ...	242	26
30. Govan, ...	408	39
31. Fairfield, ...	329	49
32. Pollokshields, ...	55	16
33. Camphill, ...	45	17
34. Pollokshaws, ...	130	42
35. Govanhill, ...	137	28
36. Langside, ...	41	18
37. Cathcart, ...	35	20
Institutions, &c., ...	7	...
OLD CITY, ...	5,485	23
+ Lodged in Old City with Home Address in Added Area, ...	5,490	23
ADDED AREA (from 15th May), ...	41	...
+ Lodged in Added Area with Home Address in the City, ...	42	...

TABLE XXIII.—GENERAL SANITARY OPERATIONS.—(*a*) FOOD AND DRUGS, &c.

Year.	1926.	1925.	1924.
I. Dairies.			
Registered during year, ...	174	174	287
Removed from Register, ...	101	203	252
n Register at 31st Dec., ...	1,596	1,523	1,552
Number of Inspections, ...	22,058	21,700	22,564
ontraventions of Orders or Regulations, ...	28	38	30
Prosecutions for same, ...	3	1	1
epairs or Improvements effected, ...	19	43	54
II. Dealers in Ice Cream.			
Registered during the year	59	64	110
Removed from Register, ...	151	95	108
n Register at 31st Dec., ...	600	692	723
Number of Inspections, ...	9,132	8,850	9,374
ontraventions of Orders or Regulations, ...	32	33	25
Prosecutions for same, ...	3	5	4
epairs or Improvements effected, ...	10	18	26
III. Byres for Milch Cows.			
umber of Dairy Byres as at 31st Dec., ...	65	45	51
,, Cows licensed for, ...	1,400	858	984
verage number kept, ...	1,056	576	639
umber of Inspections, ...	580	548	325
ontraventions of Rules or Regulations, ...	*	14	17
Prosecutions for same, ...	*	...	...
epairs or Improvements effected, ...	*	...	1
IV. Unwholesome Food.			
umber of Inspections, ...	12,283	11,769	12,233
,, Lots dealt with, ...	35	26	35
ature of Food destroyed at Inspector's instance with Owner's consent—			
Eggs, ...	216	500	390
Canned Food (various), ... (lbs.)	3,400	725	235
Biscuits, ... ,,	...	10	...
Flour, ... ,,	...	...	...
Fruit (Dried and Soft), ... ,,	89,706	42,838	134,151
Margarine, ... ,,	...	...	...
Pork (Fresh and Cured), ... ,,	14	101	47
Vegetables, ... ,,	170,706	3,486	114,328
Meat Paste, ... ,,	...	30	...
Beef Fat, ... ,,	...	...	1,200
Butter, ... ,,	...	56	...
Sausage Casings, ... ,,	...	336	...
Fish (Cured), ... ,,	6	...	...
ature of Food seized by Inspectors—			
Peas, ... (lbs.)	...	...	65
rosecutions, ...	...	...	1
Non-convictions, ...	...	...	1

* Included under Dairies Section.

TABLE XXIII. (*Continued*).

Year.	1926.	1925.	1924.
V. Food and Drugs and Margarine Acts.			
Informal Samples analysed, ...	3,586	3,620	4,063
Statutory Samples analysed, ...	1,445	1,376	1,450
Statutory Samples found Non-genuine, ...	56	94	146
Proceedings instituted, ...	31	47	51
Number of Convictions, ...	28	36	46
Amount of Fines imposed, ...	£157 10/	£199	£266 16/
Number dismissed or found "not proven,"	1	3	...
Number deserted simpliciter, ...	2	5	3
Number withdrawn and expenses paid, ...	...	3	2
Amount of expenses paid,...	...	£6 6/	£5 5/
Prosecutions for Margarine Offences, ...	2	8	6
Fines and Expenses imposed, ...	£5	£22	£19 1/
Non-convictions, ...	...	...	...
Obstruction, ...	...	...	...
Fines imposed, ...	...	...	...
Vending Milk without name and address being on vessel,	1	1	4
Number of Convictions, ...	1	1	4
Amount of Fines, ...	10/6	£1	£6 1
Refusal to Sell, ...	...	...	1
Number of Convictions, ...	...	...	1
Amount of Fines, ...	...	...	£2
VI. The Sale of Horse-Flesh Regulation Act, 1889.			
Number of premises in which Horse-flesh is sold, ...	...	...	...
Prosecutions for contravention of Act, ...	...	.	...
Fines imposed, ...	...	...	..
VII. Fish and Game Inspection.			
Under the Glasgow Police Amendment Act, 1890.			
Number of Packages of Fish, Game, Poultry, and Rabbits passed through Fish Market, ...	1,712,119	1,773,220	1,698,697
Number of Inspections of Fish Shops, Restaurants, and Hawkers' Barrows and Carts, ...	1,532	1,449	1,38[illegible]
Number of Nuisances discovered therein, ...	...	...	...
Fish and Game destroyed with consent—			
Fresh Fish, ... (lbs.)	183,717	62,674	170,64[illegible]
Cured Fish, ... ,,	25,847	18,172	34,12[illegible]
Shell Fish, ... ,,	772	1,964	3,64[illegible]
Crabs and Lobsters, ... ,,	251	112	60[illegible]
Venison, ... ,,	560	168	8[illegible]
Rabbits, ... ,,	4,320	4,233	5,24[illegible]
Poultry and Game, ... ,,	853	1,063	1,42[illegible]
Eggs, ...	360	60	3,90[illegible]

TABLE XXIII—(*Continued.*)

(*b*) Air Purification.

Year.	1926.	1925.	1924.
Smoke Prevention.			
Glasgow Police (Further Powers) Act, 1892, Sec. 31.			
mber of Inspections of Boiler and other Furnaces, ...	1,303	1,721	1,656
" Observations of Chimneys, ...	27,752	29,221	28,962
" Intimations of Excess Smoke given, ...	281	455	516
" Warning Notices to those contravening the Act, ...	23	41	49
" Prosecutions in Police Courts, ...	8	41	61
" Convictions, ...	8	37	61
ount of Fines imposed, ...	£15	£52 8/6	£113 12/
mber of Prosecutions withheld on receiving a promise from Offenders to improve the Furnace Plant, ...	4	4	3
" Prosecutions withheld on account of accidents to Furnace Plant, or, regular Fireman temporarily off duty, ...	2	...	...
" New Steam Boilers installed to give increased power, ...	3	3	5
" Mechanical Stokers fitted to Steam Boiler Furnaces, ...	18	23	8
" Steam Boiler Furnaces fitted with Smoke-preventing Appliances, ...	...	5	1
" Furnaces in which Anthracite, Coke, or other non-bituminous Fuel has been substituted for ordinary Coal, ...	18	18	10
" Furnaces adapted for Smokeless Combustion of Oil Fuel, ...	2	2	3
" Steam Boilers replaced by Electric Motors (using Corporation power), ...	3	3	5
" Furnaces formerly Coal-fired, reconstructed for use of Corporation gas, ...	6	9	1
" New Chimneys erected or existing Chimneys heightened to give increased draught and carry gases higher, ...	1	1	8
" Improvements to Furnaces not coming under any of the above headings, ...	...	6	1
praying Dungsteads, Ashpits and Privies.			
al number of Dungsteads Sprayed from 4th May, till nd October, ...	19,811	19,467	19,306
al Outlay for Wages, Plant, and Material, ...	£513	£489	£480
Interments.			
For year ending 31st May.	1927.	1926.	1925.
al number of Applications granted for Interment of Unclaimed and other Bodies, ...	360	447	492
al Expenditure, ...	£793 0/6	£1,027 4/4	£1,098 19/3
ment of Costs recovered, ...	248 6/1	£326 6/2	£272 15/9

TABLE XXIII.—(c) SUMMARY OF OPERATIONS OF SANITARY SECTION

District.	EASTERN.							
Ward.	1	2	3	4	5	6	7	8
I. Nuisances.								
TOTAL INSPECTIONS made for discovery of Nuisances, ...	32691	24305	37350	47917	40110	17254	14734	24494
Nuisances discovered and recorded, ...	2228	2048	3153	3623	2592	1339	795	1890
,, removed or remedied, ...	2225	2044	3141	3617	2583	1331	790	1923
Consisting of—								
Apartments, Lobbies, or W.C.'s, with insufficient light or ventilation, or otherwise defective in construction, ...	...	...	1	2	...	...	..	.
Defective Chimneys causing nuisance, ...	2	...	19	37	17	8	5	2
Disrepair or dampness in Dwelling-houses,	90	83	277	494	172	60	26	79
Offensive smells from Drains. or other reasonable grounds—smoke test, ...	30	60	49	55	59	40	5	106
Drains, Conductors, Soil-pipes, or Rhones choked or defective, ...	1086	798	1095	1138	878	568	341	740
Sanitary Fittings choked or defective, ..	196	138	236	276	265	69	37	170
Dirty Houses and Bedding, ...	172	346	391	524	442	236	16	241
Dirty Closes, Stairs, etc. (daily and bi-weekly cleansing),...	74	156	309	151	227	29	29	41
Houses overcrowded, ...	...	1	...	...	1	...	...	...
Walls of Closes, Staircases, Lobbies, W.C.'s, and external walls of houses filthy (limewashing), ...	166	230	257	274	242	219	157	112
Animals or Poultry kept so as to be a nuisance, ...	..	...	...	...	..	...	..	...
Accumulations of Garbage or Rubbish, ...	10	16	77	201	38	24	2	26
Smells from Decaying Animal Matter or other cause, ...	9	3	24	13	6	2	6	4
Stagnant Water, ...	6	14	61	35	13	3	4	1
Premises infested with Rats or other vermin, ...	2	4	...	17	7	2	1	1
Sink accommodation and Water Supply required, ...	..	...	...	..	...	...	...	...
Water-Closet accommodation required, ...	...	..	1	...	3	1	..	1
Water Storage Cisterns dirty, uncovered, or unventilated, ...	172	29	11	...	1	...	42	66
Water Supply Pipes defective—tenants without water, ...	27	42	82	83	74	31	8	44
Bakehouses—Dirty, ...	...	3	5	5	...	1	...	7
,, —Other nuisances, ...	...	...	...	1	...	...	1	..
Workshops—Dirty, ...	2	3	4	7	...	1	1	3
,, —Overcrowded, ...	...	...	...	...	...	...	..	..
,, —Defective in light or ventilation,	..	..	...	1	...	...		...
,, —Inadequate or defective W.C. or sink accommodation, ...	...	...	...	5	1	...	..	...
,, Other nuisances,...	1	...	1	4	1	...	2	...
Piggeries—Dirty, ...	...	...	...	...	...	...	...	6
,, —Other nuisances,...	...	...	...	...	...	...	...	..
Pit Shaft without adequate protection, ...	...	...	...	...	...	...	...	..
Reports to Gas Manager, ...	...	...	...	1	...	...	...	1
,, Master of Works, ...	43	43	143	181	64	15	79	123
,, Superintendent of Cleansing, ...	4	1	12	28	1	8	8	4
,, Water Engineer, ...	133	74	86	84	71	14	22	145
Prosecutions—Sheriff Court, ...	...	...	...	...	...	...	...	...
,, —Police Court, ...	...	...	2	1	...	...	.	..
Number of Rotation Cards for Cleansing of Common Stairs, Lobbies, and Water-Closets served on Tenants, ...	119	198	210	326	360	38	135	294
Number of Piggeries on Register, ...	2	6	...	...	...	1	..	4
Number of Inspections, ...	5	3	...	...	...	20	.	12

FOR THE YEAR 1926—*Continued.*

NORTHERN.

9	10	11	17	18	19	20	21
13468	13060	19569	30830	30426	14741	14656	11454
946	1226	1365	2909	2321	1278	1042	1099
943	1200	1344	2902	2288	1282	1039	1072
...	...	...	1	1	...	...	...
4	7	13	16	16	29	7	7
60	102	69	76	130	42	91	51
27	50	20	30	24	81	16	6
429	425	420	1056	754	540	360	500
70	141	110	405	300	131	111	86
29	98	170	110	180	116	20	61
32	37	48	152	148	59	34	35
.	...	...	1	...	...	...	1
91	145	187	412	268	132	134	189
1	...	1	...	...	...	...	...
41	74	26	178	85	37	83	20
...	5	8	13	33	3	5	4
7	2	...	5	5	5	4	...
...	...	7	9	10	3	5	...
...	...	...	...	...	1	...	...
...	2	...	...	...	...	...	...
34	...	7	46	3	...	1	8
9	14	17	56	40	20	9	3
4	...	10	11	6	7	...	...
6	...	2	2	4	3	4	...
7	2	20	14	10	5	1	1
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	1	...	...	...	...
...	...	...	3	1	...	...	...
1	9	...	...	...	6	...	...
1	1	...	...	...	...	...	3
...	1	...	...	...	...	...	...
4	...	...	...	...	...	...	4
54	62	94	120	130	17	66	29
1	...	8	2	...	5	2	1
31	23	107	183	140	40	86	63
...	...	...	...	...	...	...	...
1	...	5	9	8	...	...	...
44	146	183	684	663	15	144	55
2	3	...	2	...	6	...	8
15	22	...	11	...	25	...	38

TABLE XXIII.—(c) SUMMARY OF

CENTRAL.

12	13	14	15	16	22	23	24
17399	13343	20957	18338	17814	18652	15227	16134
2081	1765	2298	1517	907	545	2212	1656
2145	1852	2401	1734	1033	728	2294	1775
2	1	1	1	...	...	1	...
30	23	29	23	4	4	21	17
420	147	333	138	71	34	301	218
40	41	28	39	21	129	22	29
546	433	714	560	347	207	726	568
247	215	314	219	66	15	274	266
131	39	44	38	3	...	133	42
49	43	41	70	38	98	190	82
...	...	...	..	...	...	...	...
154	261	491	223	217	122	222	158
1	1	...	..	...	...	...	...
87	179	148	99	93	39	88	38
6	8	8	11	8	3	8	...
17	11	25	20	5	8	40	55
3	4	5	...	2	...	...	1
1	...	1	...	...	...	1	...
3	1	5	1	...	1	7	...
...	2	...	...	...	2	...	1
45	23	14	17	1	...	15	13
24	11	8	18	33	3	5	5
3	14	1	15	9	...	18	2
33	119	5	35	24	2	16	4
1	...	..	...	...	...	...	...
1	5	...	...	1	...	1	...
6	1	...	7	1	...	...	...
137	91	15	22	19	1	10	2
...	...	...	...	...	4	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	1	1	4	...	...	5	...
72	108	43	82	23	26	62	141
...	...	2	9	...	11	10	12
86	70	125	83	47	19	118	121
...	..	...	...	...	...	1	...
2	2	...	...	...	...	4	...
219	182	167	195	192	117	276	68
...	...	...	...	...	3	...	...
...	...	...	...	...	53	...	...

OPERATIONS OF SANITARY SECTION FOR THE YEAR 1926.—*Continued.*

	SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1925.
25	26	27	33	34	35	36	37	28	29	30	31	32		
28389	33940	45734	19453	14216	11855	22282	14482	46734	37877	33276	13816	16319	869296	879985
1770	1973	4512	932	998	669	827	988	4256	3388	4624	1523	783	70078	70880
1844	1896	4537	915	932	662	776	959	4298	3354	4600	1498	725	70682	68226
...	...	2	...	...	..	...	...	17	28	3	...	11	72	144
5	10	29	1	2	5	2	6	34	16	37	3	...	488	602
106	139	565	38	111	43	37	71	463	226	694	121	65	6243	4940
281	28	37	6	10	13	4	2	23	17	39	10	8	1485	761
757	764	1585	396	481	339	316	611	1491	1384	1241	680	386	25660	26457
81	117	520	26	87	33	21	35	538	485	680	186	62	7228	8009
34	204	410	3	19	12	1	4	128	104	328	22	17	4868	3487
11	71	178	38	13	80	43	30	181	57	355	43	10	3282	3881
...	2	4	...	...	...	...	...	3	2	1	1	...	17	22
338	180	336	291	158	42	90	63	407	329	441	141	78	7957	6925
...	...	...	2	...	...	1	..	10	1	4	...	1	23	21
26	35	212	6	9	12	14	24	146	51	87	25	14	2370	2513
3	1	8	...	1	...	1	1	6	3	3	2	4	223	196
21	16	39	2	6	4	7	15	40	20	55	10	3	584	457
2	7	18	1	...	3	...	1	11	5	17	2	1	151	154
...	1	...	...	...	...	1	...	3	1	10	...	...	20	14
...	...	1	...	1	...	1	...	11	11	6	...	3	60	31
...	...	..	62	...	...	165	9	...	...	3	...	6	670	493
7	30	73	2	3	3	1	4	64	34	70	4	6	988	917
..	4	11	7	3	5	1	4	1	2	6	2	3	215	176
...	7	12	3	...	1	10	...	2	4	7	21	2	154	96
2	..	42	3	2	6	2	7	24	4	29	3	...	443	339
...	...	...	..	...	...	...	...	...	...	...	...	...	1	1
...	...	1	...	...	...	...	...	...	...	...	...	...	10	13
...	...	...	...	...	...	...	...	4	...	...	...	..	26	30
3	4	9	...	1	2	...	4	2	1	3	...	..	339	297
...	...	...	...	...	...	...	..	...	...	...	...	..	26	8
2	...	...	...	...	...	...	...	...	...	...	...	...	7	2
...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
1	...	...	...	...	...	...	...	1	...	...	...	..	23	25
65	181	176	14	12	39	10	24	246	248	166	120	14	3135	3170
6	1	24	...	...	...	1	1	79	18	48	16	7	330	255
93	94	245	14	13	20	47	43	363	303	267	86	24	3583	3790
...	...	...	...	...	..	..	...	...	4	...	...	...	5	3
..	...	6	3	...	...	...	..	4	2	7	...	...	56	72
6	67	182	140	61	63	113	54	535	317	1458	110	84	8220	8067
5	...	...	...	1	...	2	1	...	...	4	1	1	52	52
30	...	...	...	7	...	16	5	...	...	9	2	1	310	209

TABLE XXIII.—(c) SUMMARY OF OPERATIONS OF SANITARY SECTIO

District.	EASTERN.							
Ward.	1	2	3	4	5	6	7	8
II. Drain Testing.								
Total number of Applications of the test at different times, ...	374	190	105	119	119	91	62	16
Number of new Applications for satisfaction of Dean of Guild Court, ...	182	62	6	4	1	...	11	8
Number of old Tenements or Systems to which they were applied for the first time,	26	38	40	52	58	49	25	2
Number of these found all right on first application of Test, ...	5	6	1	3	3	1	2	
Number found more or less defective on first application, ...	21	32	39	49	55	48	23	1
III. Houses Let in Lodgings and Farmed-out Houses.								
Number Inspected, Measured, and Registered,	...	...	...	3	4	...	...	
Number now on Register, Houses Let in Lodgings,	...	...	...	5	4	1	...	
Number now on Register, Farmed-out Houses, ...	...	...	...	154	54	...	208	
Number of Re-inspections by Day, ...	...	...	18	1255	638	...	...	
Do. do. by Night, ..	2	...	12	454	192	...	6	
Do. of Keepers Summoned for Contravening Regulations, ...	...	...	...	...	...	...	...	
Do. do. Fined for same, ..	...	...	...	...	...	...	...	
Amount of Fines, ...	...	...	...	..	...	.	..	
IV. Visits by Female Inspectors.								
Number of Houses visited, first time, ...	2029	3081	1513	2578	4095	2241	84	30
Number of Houses in which Lodgers were found, ...	133	107	46	96	47	34	1	1
Number of Houses and Bedding found Dirty, dealt with by statutory notice,	120	275	217	303	352	185	10	2
Number of Houses revisited, ...	167	317	241	354	382	222	13	3
Number of Houses found improved, ...	171	308	239	344	373	222	13	2
Number of Nuisances reported by Female Inspectors, ...	19	16	6	27	14	7	..	
Number of Infectious Disease Cases reported,	6	24	2	4	..	...	..	
Under the Glasgow Corporation (Police) Order, 1904, dealing with Filthy Houses and Dirty or Verminous Children :—								
Number of Visits to Schools, ...	166	100	111	123	95	60	42	
Number of Children submitted for inspection, ...	1368	2041	2175	1797	2270	1282	699	9
Number of Children found Verminous,	236	379	748	604	641	470	207	5
Number of Children found Dirty, ...	212	371	170	92	79	62	28	
Number of Homes inspected,... ...	345	355	515	458	455	383	108	2
Number of Homes Re-inspected, ...	16	22	44	40	38	33	17	
Number of Dirty Houses	40	38	62	58	11	51	2	

OR THE YEAR 1926—*Continued.*

NORTHERN.

9	10	11	17	18	19	20	21
54	83	71	69	69	120	38	45
3	53	2	5	4	90	3	7
23	13	32	28	30	11	14	20
1	...	1	2	2	...	2	2
22	13	31	26	28	11	12	18
...	...	...	...	1	...	...	...
3	1	3	4	5	...	...	...
...	...	10	24	...	...	...	...
15	2	114	126	8	...	...	...
.	...	26	26	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	...	..	...
297	1229	1641	1229	2208	2144	486	1097
13	97	117	162	104	189	27	44
14	88	136	68	142	109	26	46
33	132	220	202	216	205	29	67
14	95	147	84	157	111	23	55
1	2	5	3	18	15	7	20
...	...	...	..	...	...	...	2
16	37	51	106	83	8	6	53
54	254	454	1961	1053	33	...	512
41	304	279	996	509	15	...	311
16	37	41	24	92	3	...	56
03	133	168	671	533	119	155	216
13	6	9	33	18	6	3	9
10	7	1	15	12	4	2	10

TABLE XXIII.—(*c*) SUMMARY OF

CENTRAL.

12	13	14	15	16	22	23	24
62	75	70	79	49	258	44	57
3	14	5	1	5	52	3	2
28	24	26	34	20	16	19	27
7	3	1	4	5	3	6	2
21	21	25	30	15	13	13	25
...	...	4	...	...	...	...	...
13	9	1	7	...	...	3	2
394	11	53	...	...	...	29	...
1897	158	403	4	...	...	145	...
416	19	49	1	...	...	34	1
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	..	...	...
5067	3853	1935	1520	63	7	4051	1370
147	199	35	24	2	...	226	83
22	28	24	25	2	...	111	40
38	43	13	20	1	...	170	57
21	28	23	28	2	...	116	42
...	...	...	...	...	...	...	...
...	...	...	...	...	..	...	...
58	...	74	60	21	...	...	11
959	...	1398	792	198	...	...	103
18	...	68	19	1	...	...	1
6	...	14	10	...	...	...	...
132	269	638	463	27	...	5	33
1	...	5	3	...	...	1	1
1	...	2	3	1	...	...	1

OPERATIONS OF SANITARY SECTION FOR THE YEAR 1926—*Continued.*

	SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1925.
25	26	27	33	34	35	36	37	28	29	30	31	32		
680	47	74	194	145	50	29	621	33	54	70	141	186	4793	3952
323	...	1	62	81	9	13	237	1	8	28	21	82	1465	1345
28	31	40	8	14	14	4	4	21	15	20	9	12	894	856
3	1	1	..	3	2	...	1	.	...	5	...	5	87	118
25	30	39	8	11	12	4	3	21	15	15	9	7	807	737
..	...	...	...	...	...	...	...	4	...	...	...	..	16	17
6	...	17	...	...	..	...	.	15	1	5	...	..	105	115
...	...	118	...	...	..	...	...	12	...	..	...	...	1067	869
6	...	1388	...	...	...	..	...	280	4	32	...	.	6497	6998
4	...	...	...	...	.	...	.	...	...	...	...		1242	2863
...	...	...	...	...	...	...	..	...	...	...	...	..	...	...
...	...	...	...	...	...	...	..	..	...	..	...	.	...	...
...	...	...	...	...	...	...	..	...	...	...	...	..	..	...
448	2319	6367	10	182	219	2	1	2936	1212	1877	109	417	62925	59906
35	393	1576	5	24	13	...	...	201	40	185	24	5	4573	4357
24	181	375	3	12	8	1	2	117	57	262	15	13	3527	3013
35	374	507	7	15	9	1	2	185	138	508	38	19	5310	4354
28	186	369	3	14	10	1	1	104	59	255	18	15	3903	3069
-	..	1	...	...	...	...	...	12	6	28	1	.	210	156
...	...	...	...	...	...	...	.	2	1	...	...	...	41	5
12	117	178	5	73	88	1	5	73	109	133	47	16	2199	2025
193	2296	2600	17	682	962	6	26	1139	3205	2212	403	306	34587	36989
1	394	548	11	77	170	...	16	209	416	414	40	8	8819	8734
.	32	150	...	19	9	6	..	58	47	12	4	2	1727	1551
52	350	546	3	98	60	2	7	551	590	746	123	38	9727	9036
8	23	13	...	3	...	..	...	16	22	78	5	2	496	322
4	17	23	...	3	1	...	...	22	42	46	5	3	501	141

TABLE XXIII.—(c) SUMMARY OF OPERATIONS OF SANITARY SECTION

District.	EASTERN.							
Ward.	1	2	3	4	5	6	7	8
IV. Visits by Female Inspectors—*Continued.*								
Number of Dirty Bedding, ...	7	...	6	...	...	1	...	2
Number of Notices served, ...	118	128	154	147	56	98	10	52
Number of Houses Cleaned in consequence, ...	40	32	17	42	11	39	2	2
Number of Bedding Cleaned in consequence, ...	3	...	4	2	..	1	1	[illegible]
Number of Bedding Cleaned at Sanitary Wash-house, ...	...	...	...	...	...	...	..	
Number of Children Cleaned by Guardians, ...	126	237	673	387	320	261	90	36
Number of Children Cleaned by Officers, ...	...	...	..	...	...	...	...	..
Number of Applicants supplied with Insecticide, ...	...	...	...	1829		...	..	
V. Factories, Workshops, and Home-workers' Dwellings.								
Total number of Workshops on the Registers at 31st December, ...	76	78	82	238	79	80	57	22
Measured and Registered during the Year,	...	5	9	4	6	3	12	4
Total Inspections made, ...	704	244	246	1198	591	700	222	183
Number of Workshops found dirty, ...	2	3	4	7	...	1	1	5
Number found Overcrowded, ...	..	..	...	..	...	...	...	..
Number found defective in Light or Ventilation, ...	..	..	...	1	...	...	...	..
Number found with inadequate or defective W.C. or Sink Accommodation, ...	...	...	...	5	1	...	..	
Number of other Nuisances found, ...	1	...	1	4	1	...	2	
Number who carried out Improvements suggested by Inspector, ...	3	3	5	17	2	1	3	3
Prosecutions, ...	...	...	...	...	...	...	..	...
Convictions, ...	...	...	...	...	...	...	...	
Number of Visits made under the Home-work Order, ...	28	12	75	40	67	11	19	8
Number of Premises found dirty and Intimations issued, ...	...	...	...	...	...	...	...	
VI. Bakehouses.								
Number of Inspections for Cleanliness, &c.,	61	72	87	135	165	92	70	9
Number of Warnings issued for neglect of Cleanliness, ...	...	3	5	5	...	1	...	[illegible]
Number of other Nuisances found, ...	...	..	...	1	...	...	1	1
VII. Rag Flock Act, 1911.								
Samples submitted for Analysis, ...	...	7	2	4	5	4	2	
Certified not to conform to Standard, ...	...	...	...	1	...	...	.	
Proceedings instituted, ...	...	...	...	1	...	...	...	
Convictions, ...	...	...	...	...	...	...	...	

FOR THE YEAR 1926—*Continued.*

NORTHERN.

9	10	11	17	18	19	20	21
4	...	5	39	8	4	2	4
23	23	34	109	69	8	4	38
9	4	2	13	10	1	2	15
1	..	5	31	6	5	2	...
..	...	...	...	...	...	...	...
11	30	37	28	58	...	..	27
...	...	...	...	...	...	..	...
..	...	1637		...	...	..	...
55	14	93	134	161	54	58	59
3	2	6	18	12	3	5	1
107	85	393	303	365	184	98	105
5	4	22	16	12	7	1	1
...	...	...	..	...	..	...	...
...	..	...	...	...	...	...	...
...	...	...	1	..	...	...	...
...	...	...	3	1	...	...	...
7	2	20	18	11	8	1	1
...	...	...	...	...	.	..	...
...	..	...	...	...	...	...	..
15	8	32	35	15	16	17	5
...	...	...	..	...	...	...	...
36	...	77	61	97	14	16	32
12	.	9	9	10	6	...	...
5	...	...	6	6	1	2	...
1	...	3	7	...	...	...	1
...	...	...	...	...	...	...	...
...	...	...	...	..	...	...	...
...	...	.	...	...	..	...	...

TABLE XXIII.—(*c*) SUMMARY OF

CENTRAL.

12	13	14	15	16	22	23	24
1	...	4	5	...	...	1	2
26	...	88	37	2	...	1	4
1	...	4	2	...	...	...	...
1	...	4	2	...	...	1	1
...	...	...	...	...	...	...	...
27	...	68	28	2	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	1372		...	...
341	450	73	239	175	88	131	66
10	21	3	9	3	12	7	2
2863	2370	427	1021	793	218	374	150
32	121	4	35	28	1	12	3
1	...	...	...	...	...	...	...
1	5	...	...	...	...	...	...
4	...	...	1	...	.	...	...
129	85	14	18	19	2	8	1
173	216	20	64	45	3	27	6
...	...	..	...	...	...	...	..
...	...	. .	..	...	...	...	...
95	21	...	9	4	3	9	2
...	...	...	...	...	...	...	...
65	109	42	167	80	14	99	31
23	11	11	17	7	...	6	5
2	13	2	15	9	...	18	1
12	3	1	...	...	...	1	1
1	...	...	...	...	...	...	...
1	...	...	...	...	..	...	...
...	...	...	...	...	...	...	...

PERATIONS OF SANITARY SECTION FOR THE YEAR 1926—*Continued.*

	SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1925.
25	26	27	33	34	35	36	37	28	29	30	31	32		
4	12	18	...	4	1	...	...	5	10	13	1	...	163	142
9	455	739	11	103	181	6	10	294	515	485	50	13	4100	2430
5	11	7	...	2	...	...	...	13	28	44	2	1	391	136
3	9	7	...	3	...	...	...	4	6	6	...	...	110	121
...	...	...	...	...	...	...	...	...	...	...	...	..	...	2
1	281	598	11	100	137	6	9	208	211	140	...	...	4148	9521
..	...	...	...	...	...	...	...	...	...	...	...	..	...	11
..	...	...	..	1294		...	...	...	...	2910		..	9042	8991
76	75	297	87	58	77	39	35	234	128	113	54	89	4275	4643
11	3	11	...	3	1	2	4	14	11	6	1	...	227	411
145	166	1083	312	153	317	139	149	804	314	315	52	156	18049	19425
2	..	41	3	2	6	2	7	23	4	28	3	...	448	361
..	...	...	...	...	...	...	...	...	...	...	...	...	1	2
..	...	1	...	...	...	...	...	...	...	...	...	...	8	12
...	..	...	...	...	..	...	...	5	...	...	...	...	17	38
3	4	10	...	1	2	...	4	2	1	9	...	...	325	309
5	4	52	3	3	8	2	11	...	...	...	...	...	747	571
...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
..	...	.	...	...	...	...	...	...	...	...	...	...	...	...
13	20	250	15	16	18	29	8	21	72	...	4	3	1015	1028
..	...	...	...	...	...	...	...	...	...	...	...	...	...	2
5	60	157	68	34	59	31	31	37	10	34	16	12	2185	2509
...	4	10	8	3	1	1	2	...	3	3	1	...	181	205
1	5	14	1	5	...	11	...	2	2	12	22	1	159	113
2	..	...	...	...	...	...	...	5	2	1	4	...	68	67
..	...	...	...	...	...	...	...	...	...	...	...	...	2	6
...	...	...	...	...	...	...	...	...	...	...	...	...	2	2
...	...	...	...	...	...	...	...	...	...	...	...	...	..	2

TABLE XXIII.—(c) SUMMARY OF OPERATIONS OF SANITARY SECTIO

District.	EASTERN.							
Ward.	1	2	3	4	5	6	7	8
VIII. Common Lodging-houses and Boarding-houses for Emigrants and Seamen.								
Common Lodging-houses Inspected, Measured, and Registered, ...	...	...	..	...	...	..	..	
Number of Re-inspections by Day, ...	9	...	...	619	...	..	..	
Do. do. by Night, ...	5	...	...	60	...	...	..	
Do. Structural Defects found and remedied, ...	...	...	..	...	...	...	..	
Do. Intimations of Irregularities to Keepers, ...	...	...	...	6	...	...		
Do. Keepers summoned for contravening Regulations, ...	...	..	...	...	...	...	...	
Do. Keepers fined for contravening Regulations, ...	...	...	...	...	...	...	...	
Do. Removed from the Register, ...	...	...	...	...	...	..	...	
Total Number of Common Lodging-houses now on Register, ...	1	..	..	10	...	...	..	
With Accommodation for	396½	...	...	2261½	...	...	...	
Boarding-houses Measured and Registered,	...	...	...	...	...	...	..	
Total Number of Boarding-houses, ...	...	...	...	...	...	...	..	
With Cubic Capacity for	...	...	..	..	..	..	.	
Number of Re-inspections, ...	...	...	..	...	...	...	.	
Do. Intimations of Irregularities to Keepers, ...	...	...	...	...	...	..		
IX. Night Inspections								
(Of HOUSES TICKETED under GLASGOW POLICE ACTS, 1866 to 1890.)								
Total Number of Houses ticketed for first time during year, ...	...	...	...	...	...	...	...	
Total Number of Ticketed Houses, now on the Registers, ...	291	518	1239	1605	1172	393	67	1
Total Number of Inspections for Detection of Overcrowding, ...	548	1520	3173	4142	4223	1542	137	2
Total Number of Cases of Overcrowding,	68	186	402	428	544	157	14	
Total Number warned by Inspectors, ...	68	186	402	428	544	157	14	
Total Number admonished by Magistrates in Police Courts, ...	...	...	...	...	...	...	.	
Total Number fined by Magistrates in Police Courts, ...	...	...	...	...	...	...	.	
Cubic feet of space in worst cases of Overcrowding, instead of 400, only	174	161	183	171	160	189	227	
Number of Cases of Overcrowding in houses under 900 cubic feet of space, ...	3	2	14	31	17	...	...	

FOR THE YEAR 1926—*Continued.*

NORTHERN.

9	10	11	17	18	19	20	21
...	...	...	...	...	...		...
...	...	36	48	5	...		10
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	1	1	...	...	...
...		...	...	...	...	...	...
...		...	...	...	...	...	...
...	...	1	...	...	...		...
...	...	1	4	1	...	...	1
...	...	379	953	675½	...	...	158
...	...	...	...	...	...		...
...	...	...	...		...	...	...
...			...	...	...	...	...
				...	...	...	...
							...
							...

TABLE XXIII.—(c) SUMMARY

CENTRAL.

12	13	14	15	16	22	23	2
...	...	...	...	...	...	...	
93	290	47	8	...	...	26	
6	17	5	...	...	...	1	
...	...	...	...	...	...	...	
47	6	...	...	...	...	7	
...	...	...	...	...	...	...	
...	...	...	...	...	...	...	
...	...	...	...	...	...	...	
7	5	1	1	...	...	1	
827	963	302	343	...	...	312	
...	...	...	...	...	...	...	
...	13	3	...	...	...	...	
...	380	143	...	...	...	...	
...	81	8	...	...	...	...	
...	...	...	...	...	...	...	
...	...	...	...	...	...	...	
298	453	1271	695	...	...	407	
302	533	1375	285	...	...	407	
26	35	188	50	...	...	47	
26	35	188	50	...	...	47	
...	...	...	...	...	...	...	
...	...	..	...	...	...	...	
133	170	166	180	...	...	200	2
7	3	4	8	...	...	...	

OPERATIONS OF SANITARY SECTION FOR THE YEAR, 1926—*Continued.*

	SOUTH-EASTERN.							SOUTH-WESTERN.					CITY.	1925.
25	26	27	33	34	35	36	37	28	29	30	31	32		
...		..	...	..	...		...	.	...	...	..	..	...	...
8	...	22	...	...	...	...	..	73	103	82	...	...	1479	1168
1	...	...	...	..	...	...	..	...	...	...	..		95	206
.	...	...	...	...	..	...	.	...	...	..	...	.	.	..
	...	...	...	...	...	...	.	...	7	22	...	.	97	40
	...	..	...	...	...	..	..	...	..	..	.	.		..
.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
..	...	..	...	...	...	...	..	...	..	...	.	..	1	...
1	...	2	...	...	...	...	...	1	2	1	...	..	40	41
364	...	861½	...	...	...	..	...	450	947	407	...	..	10600	10324½
.	..	...	...	..	...	...	..	...	..	..	...	.	..	..
...	..	...	...	...	...	...	..	...	...	1	...	.	17	17
	...	...	..	...	...	...	..	..	...	53	...	..	576	576
..		...	...	...	...	..	.	...	...	24	...	.	113	61
.		..	...	..	...	...		..	..	...	..	..	...	...
.	...	..	...	...	...	...	.	...	...	...	...	.	...	17
..	317	1619	..	...	...	...	...	786	78	578	...	108	17858	18314
..	...	...	..	...	...	..	...	...	...	547	...	..	31313	52035
	...	...	...	...	...	...	..	...	...	81	..	...	3694	6341
.	...	...	...	...	...	...	..	...	..	81	..	..	3694	6341
..	...	...	...	...	...	...	..	...	...	...	...	...	..	...
...	...	...	..	...	...	...	.	.	...	...	..	.		...
...	...	..	...	...	...	...	..	...	...	165	...	...	133	120
...	...	...	...	...	...	...	..	...	...	...	...	.	162	276

TABLE XXIV.—GLASGOW.—POPULATION; BIRTHS AND DEATHS; BIRTH-RATES AN DEATH-RATES PER 1,000; ALSO DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,00 BIRTHS SINCE 1860.

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year	
						Number.	Rate per 1,000 Births.
1860†	389,843	15,943	12,436	40·8	31·9	2,905	182
1861	397,673	16,537	10,936	41·6	27·5	2,544	154
1862	405,789	16,400	11,565	40·4	28·5	2,562	156
1863	413,944	16,986	13,329	41·0	32·2	2,774	163
1864	420,738	17,411	13,674	41·4	32·5	3,051	175
1865	428,123	17,956	13,914	41·9	32·5	3,097	173
1866	437,850	18,288	12,829	41·8	29·3	2,905	159
1867	446,028	18,347	12,578	41·1	28·2	2,895	158
1868	455,000	18,607	13,832	40·9	30·4	3,127	168
1869	464,332	18,495	15,648	39·8	33·7	3,411	184
1870	471,453	19,355	13,955	41·1	29·6	2,991	155
1871	491,900	18,867	15,790	38·4	32·1	3,608	191
1872	494,824	20,158	14,053	40·7	28·4	3,198	159
1873	494,847	19,487	14,499	39·4	29·3	3,255	167
1874	498,270	20,039	15,845	40·2	31·8	3,240	162
1875	499,480	20,825	15,384	41·7	30·8	3,388	163
1876	502,299	20,981	13,763	41·7	27·4	3,166	151
1877	504,487	21,124	13,823	41·9	27·4	3,106	147
1878	507,420	20,622	14,157	40·6	27·9	3,285	159
1879	508,048	19,751	12,498	38·8	24·6	2,504	127
1880	509,732	18,912	13,304	37·1	26·1	2,842	150
1881	512,034	19,106	12,916	37·3	25·2	2,745	144
1882	517,904	19,735	13,046	38·1	25·2	2,959	150
1883	523,154	19,911	14,577	38·1	27·9	3,091	155
1884	528,459	20,557	13,942	38·9	26·4	3,094	151
1885	533,817	19,861	13,492	37·2	25·3	3,100	156
1886	539,231	19,862	13,104	36·8	24·3	2,786	140
1887	544,700	19,328	12,135	35·5	22·3	2,676	138
1888	550,226	19,309	11,681	35·1	21·2	2,560	133
1889	555,808	19,503	13,139	35·1	23·6	3,008	154
1890	561,447	19,279	13,374	34·3	23·8	2,880	149
1891	567,143	19,857	14,324	35·0	25·3	2,946	148
1892	669,059*	22,815	15,218	34·1	22·7	3,168	139
1893	677,883	23,173	15,798	34·2	23·3	3,649	157
1894	686,820	22,644	13,673	34·0	19·9	2,937	130
1895	695,876	22,803	16,344	32·8	23·5	3,538	155
1896	705,052	24,029	14,385	34·1	20·4	3,278	136
1897	714,919	23,880	15,727	33·4	22·0	3,826	160
1898	724,349	24,262	15,333	33·5	21·2	3,792	156
1899	733,903	24,249	15,828	33·0	21·6	3,696	152
1900	743,969	24,362	16,393	32·7	22·0	3,778	155
1901	761,925	24,206	16,197	31·8	21·2	3,607	149
1902	762,789	24,722	15,532	32·4	20·4	3,206	129

* Extended City.

† For earlier years, see Report for 1910, Table liii.

TABLE XXIV—*Continued.*

Year.	Population.	Births.	Deaths.	Birth-rate per 1,000.	Death-rate per 1,000.	Deaths under 1 Year.	
						Number.	Rate per 1,000 Births.
1903	763,654	25,135	15,073	32·9	19·7	3,663	146
1904	764,521	24,754	15,414	32·4	20·2	3,606	146
1905	765,389	24,316	14,460	31·8	18·9	3,195	131
1906	780,192*	24,560	14,889	31·5	19·1	3,223	131
1907	781,080	24,006	15,659	30·7	20·0	3,116	130
1908	781,969	23,915	15,265	30·6	19·5	3,284	137
1909	782,860	23,140	15,242	29·6	19·5	3,073	133
1910	783,785	22,222	13,395	28·4	17·1	2,694	121
1911	784,680	21,755	13,899	27·7	17·7	3,016	139
1912	785,600	22,044	13,797	28·1	17·6	2,740	124
1913‡	1,021,789*	28,688	17,693	28·1	17·3	3,706	129
1914	1,028,440	29,462	17,522	28·6	17·0	3,913	133
1915	1,035,091	27,943	20,159	27·0	19·5	4,007	143
1916	1,041,742	27,094	16,601	26·0	15·9	2,996	111
1917	1,048,393	24,030	16,691	22·9	15·9	3,089	129
1918	1,055,044	23,524	18,362	22·3	17·4	2,660	113
1919	1,061,695	25,835	18,237	24·3	17·2	2,937	114
1920	1,068,346	32,626	16,765	31·5	15·7	3,477	107
1921	1,075,000	29,712	15,625	27·6	14·5	3,138	106
1922	1,081,933	28,298	17,850	26·2	16·5	3,401	120
1923	1,088,987	26,710	14,875	24·5	13·7	2,388	89
1924	1,095,969	25,330	16,868	23·1	15·4	3,005	119
1925	1,097,841	25,416	15,336	23·2	14·0	2,591	102
1926	1,121,546*	24,541	15,731	22·1	14·2	2,548	104

* Extended City. ‡ Births and Deaths from 1913 are corrected for transfers.

PART II.

ANNUAL REPORTS

OF

FEVER AND TUBERCULOSIS HOSPITALS AND SANATORIA

FOR THE YEAR

1926

BELVIDERE HOSPITAL.

Admissions to hospital during the year 1926 numbered 6,198, being 820 in excess of the admissions for the previous year and much above the average of recent years. The average duration of residence of patients who were discharged well was 40* days, a figure which compares favourably with that of recent years. Among fatal cases the average period of residence was 12 days. 5,411 patients were discharged well, and 675 deaths occurred, the mortality rate being 11·1 per cent. Contrasted with admissions of the previous years, scarlet fever, diphtheria, pneumonia, and measles all showed increases, but there was a diminution in the admissions for whooping-cough.

* This figure includes several cases which, for special reasons, were detained many months in hospital, one of them being over a year in residence.

Physical Condition.—An improvement in the physical condition of admissions falls to be recorded, and the fruits of Child Welfare work were apparent in the diminished incidence of rickets. Enteritis, however, was still very prevalent among the younger children admitted. With regard to general cleanliness, little, if any, difference was observed in contrasting the admissions with those of past years. The modern fashion of treating children's hair has slightly diminished the incidence of verminous heads, but a large number of the children were still found to be dirty, verminous, or suffering from superficial septic sores.

Scarlet Fever.—1,883 verified cases of scarlet fever were treated. 232 remained in hospital from the previous year, 1,844 were discharged well, and 39 deaths occurred, giving a mortality rate of under 2·1 per cent. 153 cases were certified in error, and the diagnoses revised to some other condition. The epidemic, numerically great, was of mild type; true toxic and septic cases were relatively rare, although during the last few months of the year the cases were definitely more severe. Scarlatinal antitoxin was extensively used, chiefly for treatment, but also, to a considerable extent, as a prophylactic, and was signally successful. The early results recorded in last year's report have been amply confirmed. In many cases the duration of residence in hospital has been reduced, and it would appear that complications have been diminished. In the latter connection the general mildness of the epidemic militates against a final pronouncement. One point with regard to serum treatment calls for emphasis, namely, early administration. The benefit derived would appear to be directly related to the stage at which serum is given.

The following brief summary of a statement by Dr. Miller may be of interest:—

"The number of cases treated is now sufficient to establish beyond all doubt the efficacy of the serum. Earlier fall of temperature and fading of the rash, together with diminished toxæmia, have been constantly observed. On the basis of the Dick standard unit, *i.e.*, the amount of antitoxin required to fully neutralise 100 skin test doses of toxin, the dosage usually employed was 500,000 units, and this was

generally sufficient. The most reliable index of adequate dosage was a fall in pulse rate within 24 hours. In the absence of such response additional serum was given, usually with the desired effect. In early purulent rhinitis the serum was definitely beneficial. If given within the first few days the discharge almost invariably dried up within 36 to 48 hours. Otorrhœa did not yield to the same extent, but the incidence of otitis was less in serum-treated cases and nephritis was of rare occurrence. Desquamation was often delayed, probably as the result of lessened toxic damage to the skin. In one or two instances it did not occur until the fifth or sixth week, *i.e.*, after the patients had been discharged from hospital. This cannot be regarded as a serious disadvantage, inasmuch as such late desquamation is never infective."

The Schultz-Charlton test was performed in doubtful cases and in a considerable number of typical cases. In no instance did blanching occur when the diagnosis proved to be other than scarlatina, but some difficulty was experienced in obtaining satisfactory results in unequivocal cases of scarlet fever with the dilution of serum usually recommended. Undiluted serum, however, invariably caused blanching when the rash was of not more than three days' duration.

The Dick test was employed to a limited extent, and promises to be very helpful in diagnosis and in singling out those cases which are liable to reinfection.

From February onwards the services of Mr. N. Campbell Scott, visiting aural specialist, were available, and much good work was done. Routine visits of from two and a-half to three hours' duration were paid twice weekly, and special visits as required. Radical mastoid operations were performed when necessary, and tonsils and adenoids were removed in many cases of otorrhœa. By this procedure the duration of ear discharges was materially reduced, permitting of earlier dismissal of the patients. Apart from this immediate saving, these operative measures are of the highest importance in the prevention of chronic middle ear disease, and Mr. Scott expresses the conviction that the work done in the fever hospitals is, perhaps, the most fruitful which comes under the realm of the aurist.

The Dick Test.—As already indicated, this test was employed in patients as an aid to diagnosis and in singling out susceptibles. Among the nursing staff a start was made with the work, but so far the number tested has been comparatively small. Ideally, the test should be performed and immunisation commenced several months before probationers actually join the staff, as most of the nurses who take scarlet fever do so during the first few months of service. In practice, it does not appear desirable to offer the test until the completion of the three months' probation, and the relatively long period necessary for active immunisation of susceptibles detracts much from the value of the procedure in protecting the staff.

The protection of the staff against smallpox, the enteric group, diphtheria, and scarlet fever, not only entails a large amount of work, but calls for much co-operation and a good deal of patience on the part of the nurses. They invariably respond most loyally.

Protection against diphtheria alone involves a preliminary Schick test and at least four separate injections of toxin, together with several subsequent Schick tests, and the procedure for protection against scarlet fever is somewhat similar. Moreover, it is doubtful whether the protection afforded lasts as long as has hitherto been claimed. Recently evidence has been adduced that in some cases it may not last even a year, so that it seems desirable that after immunisation both Schick and Dick tests should be performed at intervals of two or three months.

These remarks are not inspired by any desire to disparage the undoubted value of the Schick and Dick methods of immunisation, but it is important to recognise their limitations in hospital service.

Scarlet Fever and Diphtheria.—Culturing the throats and discharges of admissions for scarlet fever revealed a small percentage of double infections, but there was very little cross-infection of scarlet fever wards with diphtheria. In the few instances where it occurred the Schick test was applied, and susceptibles passively immunised with diphtheria antitoxin. In the second half of the year a start was made with culturing the throats of all scarlet fever dismissals, and in the few cases dismissed with discharges still present these were also cultured. In view of the frequency of diphtheroid organisms in nasal and ear discharges this seemed desirable, although virulence tests almost invariably yielded negative results. In one instance only—from the nose—was a virulent strain obtained. In no instance was the removal of tonsils followed by diphtheritic infection. No passive immunisation against diphtheria was practised prior to operation.

Diphtheria.—1,007 verified cases of diphtheria were treated—447 male and 560 female. The mortality rate over all was exceptionally low, namely, 4·6 per cent. In male cases the mortality rate was 6·0 per cent., in females 3·4 per cent. The total number of fatal cases was 46, and of these 26 were moribund on admission, and died within 48 hours. Excluding these moribund cases, the mortality rate was 2 per cent. The bulk of the admissions were of a relatively mild nature, and a satisfactory feature was the apparent tendency to send cases earlier to hospital than in the past. 76 were certified erroneously; 17 of these suffered coincidently from another complaint; in the remainder the diagnosis was revised to some condition other than diphtheria. Tracheotomy was performed in 25 cases, 6 of which were moribund on admission. In the latter the operation was ineffective. Among the remaining 19 patients, 16 recovered and 3 died.

Probationer nurses were subjected to the Schick test, and those found susceptible immunised. In this connection the following details are of interest. They have been extracted from the records by Dr. Cruickshank, who recently had charge of this branch of work :—

The Schick Test.—During 1926, 85 probationer nurses, whose ages ranged from 18 to 24 years, were tested for susceptibility to diphtheria by means of the Schick test, and of these, 25 (or 29·4 per cent.) reacted

positively. Groups of about 20 nurses were tested at one time, and in each batch the number of positive reactors was around 30 per cent.

Out of a group of 11 nurses tested in April, 1926, with a mixture of toxin five days' old, 8 gave positive reactions, but when the same group were re-tested in November with fresh toxin only 3 out of 11 were positive, thus emphasising the need for using a freshly-prepared toxin.

6 nurses, who when tested in April gave doubtful positive reactions, were re-tested in November with negative results.

24 of the 25 nurses who reacted positively were given immunising doses of the prophylactic toxoid-antitoxin mixture (B.W.). A small initial testing dose of 0·1 c.c. was first injected subcutaneously, followed three days later by a 1·0 c.c. dose, and at weekly intervals thereafter by second and third doses of 1·0 c.c. One nurse gave a moderately severe reaction after the first 1·0 c.c. dose (temperature 101° F., arm painful and swollen, sore throat, and general malaise), and 7 nurses had a slight elevation of temperature, with painful arm and some malaise. The others, apart from some stiffness of the arm, did not complain.

10 out of 12 nurses immunised in April were re-tested in November, and 2 of these still gave weak positive reactions. It is suggested that these refractory cases have a deficient anti-body reaction in their make-up, and that further injections of toxin are necessary to produce sufficient anti-body to give a negative Schick test. Such individuals are probably analogous to those who develop second and third attacks of diphtheria.

The remaining 12 positive reactors were given immunising doses of the toxoid-antitoxin mixture in December. It is proposed to test these at two-monthly intervals to determine how early the Schick test becomes negative after immunisation, *i.e.*, to find out when these nurses may be presumed to be immune to diphtheria.

The Value of the Schick Test.—Since January, 1924, 10 probationer nurses have been warded with diphtheria. Of these, 7 developed the infection before they were Schick tested; 6 of them had clinical faucial diphtheria, the seventh bacteriological diphtheria. 2 of those with clinical diphtheria, when tested six and eight months after their infection, gave positive Schick reactions, while 1, who had had three attacks of diphtheria (two before admission to hospital), reacted negatively.

Of the 3 nurses who had diphtheria after being tested, 2 were Schick positive, and were given the full immunising course of injections. One of these developed faucial diphtheria, with extensive membrane on both tonsils and uvula, six weeks after immunisation; the other—immunised in October, 1923—had a positive throat culture in October, 1925, but did not show any evidence of clinical diphtheria. The third case was Schick negative in 1924, and had bacteriological diphtheria in 1926. Altogether, therefore, during the past three years only one nurse has developed clinical diphtheria after immunisation, and in her case six weeks after immunisation, which is regarded as being too early for full immunity to have developed.

Environment.—It is generally believed that town dwellers develop an immunity to diphtheria more quickly and in greater proportion than do country dwellers. An analysis of the previous environment of 50 nurses who reacted positively to the Schick test showed that 20 lived in the country or in villages, 18 in small towns or the suburbs of large towns, and 12 in large towns, *i.e.*, 38 (or 76 per cent.) had been brought up in the country or in small towns. A similar analysis of 50 nurses reacting negatively showed that 34 (or 68 per cent.) lived in the country or in small towns. It would seem, therefore, that environment is of less importance than is age in the development of a gradually acquired immunity to diphtheria.

Pneumonia.—There were 1,444 admissions, of which 1,331 came under the "acute primary" classification, and 113 were of an acute influenzal nature. 141 remained in hospital from the previous year. There were 299 deaths, giving a mortality rate of 21·5 per cent. Among adults and older children the disease was invariably of the lobar type, but in children under five years the bronchial type prevailed. 456 were children under two years of age, and among these the mortality was high, namely, 31 per cent. 114 were over 45 years of age, and in this group the mortality rate reached almost 45 per cent. In the intervening age-groups the mortality rates were relatively low. In young children enteritis was frequently present on admission, and was often a contributory cause of death. The hospitalisation of pneumonia cases naturally results in the certification as pneumonia of a great many cases which cannot be strictly designated as such, but in most of these instances the patients, although not suffering from pneumonia, were in need of hospital treatment. 143, or roughly 10 per cent., of the cases were certified in error.

Typhus.—A small outbreak of typhus, practically confined to one family, falls to be recorded. Eight cases were treated, and there was one death. The outbreak has been described in considerable detail elsewhere, but the following notes by Dr. Cruickshank on the agglutination reaction are of interest:—

Weil-Felix Reaction.—The Weil-Felix reaction derives its name from the interesting phenomenon discovered by Weil and Felix in 1916 that the organism B. Proteus × 19 is agglutinated by the serum of practically all cases of typhus after the first week of illness. B. Proteus × 19, distinguishable from other members of the Proteus family only by its particular fermentative reactions, was first isolated by Weil and Felix from the urine of a case of typhus, and has since been recovered from the blood—although infrequently—as well as from the urine of patients suffering from typhus. The test, as performed, is analogous to the Widal test in enteric fever and dysentery, but the reaction differs in this respect that B. Proteus × 19 has not, as far as present knowledge goes, any etiological relationship to typhus.

In carrying out the test, an unheated emulsion in normal saline of a 24 hours' culture of the organism on an agar slope was used as the bacterial antigen, to which was added the patient's serum in

dilutions varying from 1 : 25 to 1 : 5000. The tubes containing bacterial emulsion, plus patient's serum, were then immersed in the water-bath for two hours at 56° C., and readings taken after they had stood at room temperature for twenty minutes. Each patient's serum was tested daily from the date of admission (which, in some cases, was the first day of illness) till the crisis, thereafter every second or third day for two to four weeks, and finally once a week till the reaction again became negative. It was thus possible to secure complete curves showing the degree of positivity of the Weil-Felix reaction in each patient throughout his or her illness (as judged by the varying dilutions of serum which agglutinated the organism), and, in addition, to determine (*a*) how early in the disease the reaction became positive, and (*b*) how long it persisted. The value of such data is obvious in helping to trace missed or convalescent cases of typhus.

The earliest day of illness on which agglutinins were demonstrated in the blood was the fifth, when a 1 : 25 dilution of the serum of M.B. (15 years) agglutinated the B. Proteus × 19 emulsion. The serum of the other cases agglutinated the organism in a similar dilution, or in 1 : 50 on the sixth and seventh days of the fever. There was a rapid increase in the agglutinating power of the serum on each succeeding day until the titre for each patient's serum was reached. This varied from 1 : 250 (Mrs. E.R. and J.B.) to 1 : 3000 (S.B. and G.B.), except in the case of W.B., whose serum did not produce agglutination in a dilution beyond 1 : 50. The maximum dilution was always attained before the crisis, and was maintained for a period varying from four to seven days after the crisis, after which it fell slowly to become negative at a period varying from six weeks to three months from the onset of the illness.

Charts cannot be included in this brief report, but the following figures from a representative case show the rapid rise in agglutinating power of the serum and the gradual fall after crisis :—

3. (female aged 20 years)—

of Illness, - -	5	6	7	8	9	10	11	12	13	14	15
ition of Serum pro-ucing agglutination,	—	1:25	1:50	1:125	1:250	1:500	1:1000	1:2500	1:3000	1:3000	1:3000

16	18	20	22	25	27	29	32	36	38	41
1:3000	1:2500	1:1250	1:1000	1:1000	1:1000	1:500	1:500	1:500	1:500	1:250

44	47	51	54	58	61	65	68	76	88	96
1:250	1:125	1:125	1:125	1:125	1:125	1:50	1:50	1:50	1:25	—

Conclusions and Summary. — (1) Statistical evidence cannot be deduced from such a small series of cases, but it would seem that the extent to which agglutinins were formed in the blood varied directly as the severity of the illness, since with the older and more ill patients a much higher dilution of serum agglutinated the organism at or near the crisis than was the case with the younger patients who were less acutely ill.

(2) An exception to this rule was present in the case of Mrs. E.R., whose serum did not agglutinate the organism in a dilution beyond 1 : 250, although she was the most severely ill of all the patients. It is possible that this failure of the blood to react in the formation of agglutinins corresponds to the absence of leucocytosis in the severely ill case of pneumonia, and may be regarded as a bad prognostic feature.

(3) A positive Weil-Felix reaction was not obtained before the fifth day of illness, nor in any case before the characteristic rash appeared, so that the reaction is of little value as a factor in the early diagnosis of typhus.

(4) The Weil-Felix reaction remained positive for the longest period in those cases whose serum agglutinated in highest dilution, and in these patients a positive reaction (1 : 25—1 : 50) was still present nine to twelve weeks after infection, whereas in the milder cases and in Mrs. E.R. the reaction became negative in six to eight weeks from the onset of illness.

(5) In view of this heterologous reaction in typhus, it is interesting to record that the Wassermann reaction performed before crisis was positive in four out of six cases. It was still positive in two of the most severely ill patients a week after crisis, but was negative in all cases a week later.

Whooping-cough. — 277 cases were treated, most of them of a severe nature, and complicated by broncho-pneumonia or enteritis. There were 79 deaths, this being equivalent to a mortality rate of 28 per cent. The results of treatment in this disease continue to be disappointing; the most favourable results were obtained when weather conditions permitted of the children being treated partially out of doors.

Measles.—442 cases were treated, with 70 deaths, the mortality rate being 15·8 per cent. Many of the cases already suffered from severe lung complication on admission, and enteritis was also frequently present. Many also were admitted to hospital late in the disease, after the rash had disappeared. The serum of convalescence was exhibited in a small number of cases, but few opportunities of obtaining it occur, and, in view of the late stage at which measles cases are generally received, it would appear in the meantime to be most helpful as a prophylactic.

Cerebro-spinal Fever.—This disease continues to occur sporadically, most of the admissions being very young children, many of

them being practically moribund on admission. 21 cases were treated, with 13 deaths, a mortality rate of 61·9 per cent. 55 cases were certified in error.

Roseola.—64 cases of this condition were dealt with. It is chiefly interesting on account of the difficulty of diagnosis, and many of the cases were otherwise certified. The Schultz-Charlton reaction and the Dick test were made use of as an aid to diagnosis.

Chickenpox.—185 cases were treated, a considerable number of them being complicated by other conditions, surgical or medical. There were no deaths. 19 cases were erroneously certified.

Puerperal Fever.—The admissions for puerperal fever have been increasing during the last few years, and a further increase falls to be recorded, the number of patients admitted being 266. As stated in last year's report, this increase is partially due to the tendency to send to hospital some of the milder forms of sepsis which used to be treated at home. Many cases of abortion—some of them only mildly septic—are now sent to hospital, indicating undoubtedly an increased vigilance on the part of the profession. Recent methods of modified vaccine and of serum therapy were tried, but the results were not impressive. Scarlatinal antitoxin was exhibited in a few cases without very appreciable benefit, although certain workers have found that it protects rabbits injected with puerperal streptococci. As in definite septic cases of scarlet fever, the results of serum treatment are less favourable than in the ordinary simple cases, so it would appear that in true puerperal septicæmia serum treatment is unlikely to yield altogether favourable results. In some cases, with more local sepsis and toxæmia, improvement was noted, and it seems likely that there may be a considerable field for the use of the serum as a prophylactic. The mortality rate, 17·6 per cent., is practically the same as that of last year.

THOMAS ARCHIBALD,
Physician-Superintendent.

15th March, 1927.

BELVIDERE HOSPITAL—Statement of Cases Treated According to Sex.

Data Based on Dismissals and Deaths for Year 1926.

Disease.	In Hosp. 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital, 31st Dec.		Mortality per cent.		Average Residence. Dismissals		Average Residence. Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Typhus,	...	...	2	6	...	1	2	5	...	...	...	16·7	36	59	...	6
Enteric,	1	...	20	27	4	1	17	22	...	4	19·0	4·3	49	51	12	11
Continued and Undefined,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal,	...	23	...	266	...	46	...	216	...	27	...	17·6	...	36	...	6
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	99	133	823	1,138	12	27	767	1,077	143	167	1·5	2·4	49	47	16	17
Diphtheria and Memb. Croup,	51	54	465	576	27	19	420	541	69	70	6·0	3·4	42	40	5	3
Erysipelas,	...	...	1	...	...	...	1	...	...	...	...	...	25	...	...	...
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	1	...	14	8	8	5	5	3	2	...	61·5	62·5	41	50	10	3
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...
Trachoma,	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Encephalitis Lethargica,	...	...	1	...	...	...	1	...	...	...	...	...	28	...	...	...
Acute Polioencephalitis,	...	...	...	1	...	...	...	1	...	...	...	...	...	33	...	...
Acute Poliomyelitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	70	63	788	542	171	107	590	406	97	93	22·5	20·9	36	28	10	11
Acute Influenzal-Pneumonia,	7	1	80	33	14	7	68	25	5	2	17·1	21·9	38	24	8	9
Malaria,	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery,	...	...	1	...	...	...	1	...	...	...	...	...	15	...	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis,	...	...	2	5	...	1	2	4	...	...	...	20·0	10	30	...	4
Other forms of Tuberculosis,	1	...	12	15	11	12	2	1	...	2	84·6	92·3	120	59	13	7
Measles,	21	24	205	192	37	33	189	183	...	...	16·4	15·3	33	31	15	16
German Measles,	2	2	28	32	...	...	30	34	...	...	...	...	13	14	...	...
Whooping-Cough,	24	36	114	136	37	42	80	118	21	12	31·6	26·3	55	61	20	26
Chickenpox,	14	11	91	93	...	...	92	93	13	11	...	...	40	39	...	...
Other Affections, *e.g.*, Mumps, Vincent's Angina,	15	9	182	172	31	22	149	150	17	9	17·2	12·8	30	27	15	16
Venereal Diseases,	...	...	126	...	...	...	116	...	10	...	...	...	32	...	...	...
Total,	306	356	2,955	3,243	352	323	2,532	2,879	377	397	12·2	10·1	41	40	12	13

BELVIDERE HOSPITAL.—Statement showing Age and Sex Distribution of Cases Dismissed, and Deaths during the Year 1926.

Age	Typhus.	Enteric.	Puerperal	Ophthalmia Neonatorum	Scarlet Fever.	Diph. and Mem. Croup.	Erysipelas.	Cerebro-spinal Fever.	Encephalitis Lethargica.	Acute Poliomyelitis.	Acute Primary Pneumonia.	Acute Influenzal-Pneumonia.	Venereal Diseases.	Dysentery.	Pulmonary Tuberculosis.	Other forms of Tuberculosis.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Total.
Cases (including Deaths).																						
- 1	...	...	...	...	5	11	...	5	...	...	117	3	...	...	...	1	22	1	23	8	55	251
- 2	...	...	...	...	34	53	...	...	...	...	138	3	...	...	...	2	78	1	32	14	18	373
- 3	...	...	...	...	58	50	...	...	...	...	69	5	...	...	...	1	45	1	20	10	17	276
- 4	...	1	...	...	78	51	...	1	...	...	42	1	...	...	...	1	27	3	18	7	4	234
- 5	...	...	...	...	83	37	...	1	...	...	26	2	...	...	...	2	21	4	10	5	6	197
- 10	...	4	...	...	332	121	...	...	...	...	84	9	...	...	...	5	28	14	14	31	21	663
- 15	1	2	...	...	102	57	...	1	...	...	43	3	...	...	...	...	...	3	...	2	12	226
- 25	1	4	...	...	61	34	...	3	...	...	89	25	22	...	...	1	3	2	...	8	23	276
- 35	...	3	...	...	18	16	1	1	...	...	42	8	54	...	2	...	2	...	...	6	7	160
- 45	...	4	...	...	3	11	...	1	1	...	45	10	21	1	...	...	...	1	...	1	9	108
45 +	...	3	...	...	5	6	...	...	...	...	66	13	19	...	...	...	...	...	...	...	8	120
Total,	2	21	...	...	779	447	1	13	1	...	761	82	116	1	2	13	226	30	117	92	180	2,884
- 1	...	...	...	...	7	11	...	1	...	...	79	1	...	...	1	1	30	1	33	6	44	215
- 2	...	...	...	...	26	39	...	2	...	...	113	2	...	...	...	1	59	1	39	12	25	319
- 3	...	...	...	...	62	27	...	1	...	...	57	...	...	...	...	2	46	5	33	15	15	263
- 4	...	1	...	...	83	43	...	...	...	...	29	1	...	...	...	4	35	2	22	13	8	241
- 5	...	1	...	...	88	44	...	...	...	...	18	...	...	...	...	...	13	4	13	12	3	196
- 10	...	2	...	...	464	166	...	2	...	...	58	5	...	...	...	1	26	10	20	25	20	799
- 15	2	3	...	...	195	76	...	...	...	...	18	3	...	...	...	4	...	4	...	7	10	322
- 25	2	8	86	...	127	99	...	...	...	1	42	5	...	...	3	...	6	7	...	3	20	409
- 35	1	2	136	...	43	32	...	1	...	...	39	3	...	...	1	...	...	...	...	...	17	275
- 45	...	2	40	...	6	14	...	1	...	...	30	7	...	...	...	...	...	...	...	...	8	108
45 +	1	4	...	...	3	9	...	...	...	...	30	5	...	...	...	...	...	...	...	...	2	55
Total,	6	23	262	...	1,104	560	...	8	...	1	513	32	...	...	5	13	216	34	160	93	172	3,202
Deaths.																						
- 1	...	...	...	...	...	7	...	4	...	...	47	1	...	...	...	1	8	...	14	...	15	97
- 2	...	...	...	...	2	7	...	...	...	...	39	1	...	...	...	2	23	...	12	...	3	89
- 3	...	...	...	...	4	2	...	...	...	...	20	...	...	...	...	1	3	...	3	...	3	36
- 4	...	...	...	...	1	5	...	1	...	...	7	1	...	...	...	1	2	...	6	...	1	25
- 5	...	...	...	...	...	4	...	1	...	...	...	...	...	...	...	2	...	...	1	...	...	8
- 10	...	...	...	...	2	2	...	...	...	...	2	...	...	...	...	4	1	...	1	...	...	12
- 15	...	...	...	...	..	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	2
- 25	...	...	...	...	2	...	...	1	...	...	8	1	...	...	...	...	...	...	...	...	7	19
- 35	...	2	...	...	1	...	...	...	...	...	5	1	...	...	...	...	...	...	...	...	...	9
- 45	...	1	...	...	...	...	...	1	...	...	15	1	...	...	...	...	...	...	...	...	...	18
45 +	...	1	...	...	...	...	...	...	...	...	28	7	...	...	...	...	...	...	...	...	1	37
Total,	...	4	...	...	12	27	...	8	...	...	171	14	...	...	...	11	37	...	37	...	31	352
- 1	...	...	...	...	2	2	...	1	...	...	30	1	...	...	1	1	10	...	17	...	9	74
- 2	...	...	...	...	6	6	...	2	...	...	24	1	...	...	...	1	14	...	14	...	5	73
- 3	...	...	...	...	5	2	...	1	...	...	6	...	...	...	...	2	4	...	5	...	...	25
- 4	...	...	...	...	3	4	...	...	...	...	1	...	...	...	...	4	3	...	2	...	1	18
- 5	...	...	...	...	2	2	...	...	...	...	4	...	...	...	...	...	1	...	3	...	...	12
- 10	...	...	...	...	7	2	...	...	...	...	4	...	...	...	...	...	...	...	1	...	1	15
- 15	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	4	...	...	...	...	1	7
- 25	...	...	15	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	24
- 35	...	...	23	...	1	..	...	...	...	...	6	1	...	...	...	...	...	...	...	...	3	34
- 45	...	...	8	...	...	...	...	1	...	...	8	2	...	...	...	...	...	...	...	...	1	20
45 +	1	1	...	...	...	1	...	...	...	...	14	2	...	...	...	...	1	...	...	...	1	21
Total,	1	1	46	...	27	19	...	5	...	...	107	7	...	...	1	12	33	...	42	...	22	323

BELVIDERE HOSPITAL.—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during 1926.

Diagnosis Altered to	Originally Certified as																		
	Typhus Fever	Enteric Fever	Continued and Undefined Fever	Puerperal Fever	Scarlet Fever	Scarlet Fever and Other Diseases	Diphtheria	Diphtheria and Other Diseases	Cerebro-spinal Fever	Poliomyelitis	Pneumonia	Dysentery	Measles	Measles and Other Diseases	Roseola	Whooping-Cough	Whooping-Cough and Other Diseases.	Chickenpox	Malaria
Typhus Fever,	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever,	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...
Continued and Undefined Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever and Other Diseases,	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	...	...	...	...	...	8	7	...	1	...	...	...	...	...	...	...	...	...	...
Scarlet Fever and Other Diseases,	...	...	...	...	31	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria,	...	1	...	...	6	...	...	...	1	...	1	...	1	...	...	...	...	...	...
Diphtheria and Other Diseases,	...	...	...	...	...	...	17	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Encephalitis Lethargica,	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...
Dysentery,	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia,	...	4	2	8	7	...	9	...	3	1	...	1	...	...	...	2	...	...	...
Pneumonia and Other Diseases,	...	3	1	...	...	1	1	...	9	...	31	...	1	1	...	...	...	...	...
Erysipelas,	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis (All Forms),	...	4	...	...	...	...	1	...	14	1	1	...	...	...	...	...	...	...	...
Measles,	...	...	...	...	5	...	6	...	...	...	5	...	...	9	...	1	...	...	...
Measles and Other Diseases,	...	...	...	...	...	...	1	...	1	...	...	...	4	...	...	1	...	...	...
Roseola,	...	...	...	...	50	...	...	...	...	...	...	...	4	...	...	...	...	...	...
Whooping-Cough,	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	...
Whooping-Cough and Other Diseases,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...
Chickenpox and Other Diseases,	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	7	...
Influenza,	...	...	1	...	...	...	...	...	...	...	11	...	...	...	...	...	...	...	...
Other Diseases of the Nervous System,	...	1	...	1	...	...	1	...	7	1	...	...	...	...	...	...	...	...	...
Other Diseases of the Respiratory System,	...	...	1	1	5	...	4	...	6	...	57	...	1	1	...	11	1	1	...
Diseases of the Circulatory System,	...	2	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...
Diseases of the Digestive System,	...	8	...	2	1	...	6	...	10	...	19	...	...	1	...	...	...	...	...
Other Accidents and Diseases of Pregnancy and Parturition,	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Skin and of the Cellular Tissue,	1	...	1	...	16	...	...	...	...	...	1	...	...	...	...	...	...	10	...
No apparent Disease,	...	1	...	1	10	...	1	...	...	...	4	...	2	...	...	3	1	1	...
All Other Diseases,	2	2	...	1	22	...	19	...	1	...	7	...	2	...	...	...	...	...	...

RUCHILL FEVER AND TUBERCULOSIS HOSPITAL.

The total number of cases dealt with in the fever wards during the year ending 31st December, 1926, shows a big increase, there having been about 400 more cases treated to a termination than in the previous year. The general mortality rate has fallen from 10·7 per cent. to 9·3 per cent.

Enteric fever cases (32) remained very few, being practically the same as last year. Paratyphoid cases, on the other hand, showed an increase. Two deaths occurred among the patients suffering from the latter disease, but in each case the cause of death was directly due to some concomitant affection.

In diphtheria there was a decided increase. There were 783 cases. The mortality rate remained practically the same. An incident worthy of note in connection with this disease was the recovery of a patient who suffered from an attack of the hæmorrhagic variety.

Examination of the nursing staff for susceptibility to diphtheria by means of the Schick test has been made use of to a considerable extent, and arrangements have been made whereby all nurses joining the staff will be so tested. Immunisation of susceptible individuals has been carried out by the toxin-antitoxin mixture injections.

Scarlet fever patients (1,527) showed an increase on the previous year. The mortality rate was slightly reduced, and on the whole the cases were of a mild variety. Extensive use has again been made of anti-scarlatinal serum in the treatment of this disease with very encouraging results. The following account, prepared by Dr. Baxter, one of the Resident Assistant Medical Officers, is presented as indicating the details of the treatment and results :—

> "An investigation as to the value of specific serum therapy in scarlet fever was carried out at Ruchill Fever Hospital during the epidemic of the latter half of 1926, and the following is the outcome of clinical observations and results obtained in over 100 cases treated by this method :—
>
> In order to test thoroughly the efficacy of the serum, only selected cases were treated. These cases showed some or other manifestations of considerable toxæmia, while a few were of the septic type.
>
> The method of administration of the serum adopted as a routine was that of intramuscular injection, and this was found, in all cases, to be satisfactory in every respect. In three serious cases where immediate reaction was required attempts at intravenous injection were made, but had to be abandoned on account of the existing low blood-pressures. As a rule, one dose of 10 c.c. of serum proved effective, but some cases required a second similar dose; the latter cases were all of them particularly severe in type. The time of administration of the serum varied considerably. The majority of cases got the serum on the second or third day of illness, but some had been ill for so long as six days. The immediate effects of the serum were fairly constant, as observed in the cases under review.

The temperature fell to normal often by crisis, but always within 24 or 36 hours. In several cases an initial rise of temperature was observed immediately after the injection of the serum, but a crisis generally followed. The initial rise of temperature resembles that which may follow the injection of diphtheria antitoxin. A marked beneficial effect was produced on the condition of the heart, the pulse-rate being diminished and the quality of the pulse greatly improved. The effect of the serum on the rash was to lessen its intensity and duration. The subsequent desquamation was rendered less profuse. Marked changes in the mouth and throat also took place soon after serum treatment. The disappearance of dry lips, sordes, and a dry tongue was striking. The painful throat disappeared rapidly, and cases where there was marked faucial congestion, palatal angina and œdema of the uvula showed a marked subsidence within 24 hours. Cases where the stage of inflammation has been reached, if not treated by antitoxin, generally proceed to ulceration of the fauces and subsequent adenitis.

One of the most striking effects observed was the extraordinary change in the toxæmic condition of scarlet fever patients within 12 to 24 hours of administration of the serum. The disappearance of general malaise, headache, delirium, pains in the muscles and joints, &c., caused an intense feeling of relief and well-being; most of the patients, however ill they had been to begin with, were within 36 hours wanting to sit up, and were demanding a more liberal diet.

From the foregoing facts it will be evident that marked beneficial effects are produced by the administration of serum in particularly severe cases of scarlet fever. In this connection it is important to note that these observations showed that the earlier the serum was given in the course of the disease the more marked were the results; in some cases where the patient came under treatment later than the third day of illness a second dose of the serum was necessary.

The question of the effect of this serum on the complications is important. Several cases were observed which were complicated by rhinorrhœa, otorrhœa, and cervical adenitis on admission to hospital, and these complications subsided in a few days. Complications arose after serum treatment, but were all either transient or of a mild form. Late adenitis was observed in a few cases, but was always transient; there were no cases of suppurative adenitis. Otitis media complicated very few serum cases, and only one case, which showed hypertrophy of tonsils and adenoids to a marked degree, was detained beyond six weeks. There were no cases of acute mastoiditis.

Rhinorrhœa occurred mainly in children, but was found more amenable to treatment than in patients who had not received antitoxin; detention beyond six weeks occurred only in two instances, and was on account of sores on the upper lip and in the nostrils, the nasal discharge having ceased. Arthritis was observed in

one case, but it was transient and possibly in the nature of a serum arthritis. Nephritis occurred only in one serum case, the patient getting out of bed on his fourth day against regulations. Albuminuria immediately following the injection of the serum was observed in several cases, but rarely lasted more than one or two days. Endocarditis occurred in two cases; one case of septic scarlet fever terminated fatally, but the other patient made an excellent recovery.

There were no ill effects observed following the administration of the serum other than slight stiffness of the muscles round the site of injection. Serum rashes occurred in several cases, but were urticarial and of a transient nature, causing no inconvenience and requiring no treatment.

The general conclusions are that specific serum, while not preventing complications, tends to make them more amenable to treatment when already present, and to make them transient in nature and less in severity should they arise, thus lessening the period of detention in hospital. In the case of septic scarlet fever the observations were confined to a few instances only. The results generally were disappointing; as a rule, no definite specific effects were noticed, although there were one or two encouraging exceptions.

The important question of the effect on the mortality is very difficult to settle statistically, as it is a recognised fact that the percentage mortality rate has been decreasing along with the decrease in the severity of the type of scarlet fever now prevalent. In this series of cases two deaths occurred, one a septic case with endocarditis, and the other a case suffering from severe gastro-enteritis and broncho-pneumonia in addition to scarlet fever. When it is taken into consideration that the cases dealt with in this series were of a particularly severe nature, and included two patients who were moribund on admission, and who recovered, it is reasonable to conclude that without serum the number of deaths would have been greater."

A large increase in the number of measles cases treated occurred, and this included the majority of the cases in the epidemic which was commencing at the time of the previous report. The mortality rate in this instance was slightly increased. The cases were, generally speaking, fairly mild and the incidence of pneumonia was not unduly high. The employment of protective inoculation of contacts with convalescent patients' serum was made further use of with continued satisfactory results.

Cerebro-spinal fever cases were few, and were represented by purely sporadic cases occurring in infants.

An increase in numbers is shown in erysipelas, but the mortality rate was practically the same, at 10·0 per cent. for males and 6·2 for females.

A considerable decrease in the number of whooping-cough patients is shown, though the mortality rate was somewhat higher.

There is again a considerable drop in the numbers of encephalitis lethargica. The cases were very largely confined to the chronic form of the disease, and did not present anything particularly noteworthy.

In pneumonia there were about 100 fewer patients treated than in 1925, but still they represent a large proportion of the total cases in hospital. Nothing of note occurred regarding the type of the disease, and the mortality rate remained practically the same, being around 20 per cent. for both sexes.

Trachoma cases have continued to be treated in the hospital under the care of the visiting ophthalmic surgeon. Arrangements have been made whereby suitable occupation is provided for cases which are in hospital for extended periods. This has been much appreciated by the patients.

The present report being the first to be written since the appointment of a visiting aural surgeon to the hospital staff, the following information regarding the work done is presented :—

The surgeon was appointed in the early part of the year, and immediately took up his duties, visiting the hospital twice a week, and seeing patients who were suffering from lesions of the ear, throat, &c., usually complications of one or other of the infectious diseases. At first the work was mainly consultative, as facilities for operative work were not yet completed, but latterly a well-equipped theatre has been provided, and a good many operations have been performed.

Among the patients the number of consultations and examinations made was 521, comprising 292 new cases and 229 old cases. The conditions dealt with were cases of middle ear disease, which accounted for more than 75 per cent. of the total, enlarged tonsils and adenoids, laryngitis, wax in the ears, meatal furuncle, malformation of the larynx, congenital stridor, deflected nasal septum, and rhinitis.

Operations to the number of 73 have been performed, made up of the following :—Removal of tonsils and adenoids, 59; mastoidectomy, 11; paracentesis of tympanic membrane, 1; antral lavage, 1; evacuation of cerebral abscess, 1.

All these patients made good recoveries, with the exception of the case of cerebral abscess, which died.

The results of removal of tonsils and adenoids for chronic otorrhœa have in the main been quite satisfactory, but occasionally cases have occurred where the discharge continued afterwards apparently unaffected by the operation.

The services of the aural surgeon have also been made use of for the hospital staff. 49 consultations and examinations were made in 29 new and 20 old cases, and 8 operations were performed.

Dr. M'Gowan, Tuberculosis Officer, presents the following statement referring to the work of the tuberculosis section of the hospital :—

> "Throughout the past year the accommodation of the sanatorium has been taxed to its utmost capacity, and occasions have arisen when the most fit had to be discharged prematurely to make room for urgent cases requiring admission. As in former years, the majority of the cases suffered from advanced pulmonary

tuberculosis, and an analysis of these cases showed they could be sub-divided into three classes :—

I. Acute phthisis of broncho-pneumonic type, terminating fatally in from one to two weeks till about three months after admission. In this class a large percentage was made up with young adult females between the age-period of 18-25 years.

II. A. Sub-acute Phthisis. — In this class quite a number improved under treatment, and the disease became chronic in type.

B. Sub-acute phthisis superimposed on a chronic extensive lesion, and usually proving fatal.

III. Chronic Phthisis. — The patients remained in a very stationary condition, and exhibited more or less some degree of respiratory embarrassment.

From time to time patients were admitted for observation, and the majority in these cases were found to be negative for pulmonary tuberculosis. The diagnosis decided upon was usually one of three things :—

1. Pneumokoniosis.—This included chronic bronchitis and emphysema.
2. Bronchiectasis.
3. Mediastinal or pulmonary neoplasm.

The non-pulmonary forms of tuberculosis were almost entirely restricted to the children in the institution, the abdomen and mediastinal glands being the sites chiefly affected.

The treatment has been conducted on the usual general principles of sanatoria, much importance being especially placed upon the necessity for rest. Of the more special forms of treatment, a few cases have been suitable for the induction of an artificial pneumothorax, and very beneficial results have been obtained. Intra-peritoneal injections of oxygen have been given to children with tubercular peritonitis, especially when ascitis occurred, with apparently good results. Since November, 1926, most of the children have undergone a course of artificial light treatment (mercury vapour lamp), and satisfactory improvement in their general condition has been noted.

The number of deaths is reduced by quite an appreciable amount. This may in part be due to an increased number of chronic cases showing a fair degree of activity on admission and improving under treatment, and it may be due to the discharge of a number of patients in a dying condition. The number of such cases discharged in 1926 is approximately 30, and of that number about one-half belong to the group of young adult females with acute phthisis.

The high standard of discipline has been maintained, and every suitable form of recreation, indoor and outdoor, has been encouraged."

W. M. ELLIOTT,
Physician-Superintendent.

May, 1927.

RUCHILL HOSPITAL—Statement of Cases treated according to Sex.
Data based on Dismissals and Deaths for Year 1926.

Disease.	In Hosp. 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital at 31st Dec.		Mortality per cent.		Av. Residence (Days). Dismissals.		Av. Residence (Days). Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paratyphoid B.,	1	1	3	12	...	2	4	10	...	1	...	16·7	55	51	...	32
Typhus.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	2	...	21	16	3	3	14	12	6	1	17·6	20·0	78	58	9	5
Continued and Undefined,	...	..	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Puerperal,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	84	72	729	893	14	19	681	813	118	133	2·0	2·3	48	47	49	20
Diphtheria and Memb. Croup,	44	40	374	450	20	24	338	401	60	65	5·6	5·6	51	53	23	5
Erysipelas,	22	15	257	242	26	15	235	228	18	14	10·0	6·2	24	25	10	43
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	12	6	11	6	1	...	...	...	91·7	100·0	35	...	7	27
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	2	5	12	26	...	...	14	27	...	4	...	...	59	71	...	...
Lethargica Encephalitis,	1	...	7	12	1	1	4	8	3	3	20·0	11·1	57	58	3	9
Acute Polioencephalitis,	...	...	1	1	1	...	...	...	...	1	100·0	...	...	...	15	...
Acute Poliomyelitis,	...	...	1	1	...	...	...	1	1	...	...	...	...	77	...	...
Acute Primary Pneumonia,	77	40	668	404	146	82	519	325	80	37	22·0	20·1	31	32	8	12
Acute Influenzal-Pneumonia,	...	...	11	28	2	6	9	22	...	...	18·2	21·4	23	22	1	8
Malaria,	...	...	5	...	...	...	3	...	2	...	...	...	24	...	...	...
Dysentery,	2	...	3	...	...	...	5	...	...	...	..	...	34	...	...	..
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...
Pulmonary Tuberculosis,	...	...	5	14	4	5	1	8	...	1	80·0	38·5	46	60	14	23
Other Forms of Tuberculosis,	...	...	16	16	15	14	1	2	...	...	93·8	87·5	22	51	13	9
Measles,	42	52	192	255	23	20	210	286	1	1	9·9	6·5	32	30	13	11
German Measles,	2	4	24	39	...	...	26	43	...	...	...	...	21	19	...	...
Whooping-Cough,	3	1	18	22	4	3	14	19	3	1	22·2	13·6	57	64	16	15
Chickenpox,	...	...	5	3	...	...	4	2	1	1	...	...	30	29	...	..
Other Affections,	20	26	345	343	22	14	309	324	34	31	6·6	4·1	24	25	9	17
Total,	302	256	2,710	2,783	292	214	2.392	2,531	328	294	10·9	7·8	37	39	11	15

RUCHILL HOSPITAL.—STATEMENT SHOWING AGE AND SEX DISTRIBUTION OF CASES DISMISSED, AND DEATHS DURING THE YEAR 1926.

Age.	Paratyphoid B.	Continued and Undefined Fever.	Enteric.	Trachoma.	Smallpox.	Scarlet Fever.	Diph. and Memb. Croup.	Erysipelas.	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Poliomyelitis.	Acute Primary Pneumonia.	Acute Influenzal-Pneumonia.	Malaria	Dysentery.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Acute Polioencephalitis.	Total
(including Deaths).																								
- 1	...	...	...	...	...	4	13	3	6	...	...	82	...	...	...	...	1	32	1	4	...	55	...	201
- 2	...	...	...	...	...	21	32	5	2	...	...	83	...	...	...	...	3	62	4	3	1	45	...	261
- 3	...	...	...	...	...	52	22	3	...	...	...	54	...	...	...	...	2	46	3	4	...	29	...	215
- 4	...	...	...	...	...	51	28	2	...	...	...	30	...	...	...	...	1	44	7	1	...	23	1	188
- 5	...	...	1	...	...	79	41	1	1	...	...	27	...	..	...	1	1	20	1	3	1	10	...	187
- 10	1	...	3	2	...	304	125	7	...	...	...	75	...	...	...	...	6	27	8	3	1	46	...	608
- 15	...	...	2	3	...	110	43	13	1	...	...	40	3	...	1	1	...	2	...	...	...	27	...	246
- 25	1	...	6	5	..	51	33	18	2	2	...	90	3	2	...	1	2	...	2	...	1	33	...	252
- 35	...	...	3	3	...	13	11	33	...	3	...	54	1	...	2	1	...	...	...	...	...	17	..	141
45	2	...	1	...	...	8	8	50	...	...	...	63	2	...	2	1	...	...	...	...	...	17	...	154
5 +	...	...	1	1	...	2	2	126	...	...	...	67	2	1	...	...	...	...	...	...	...	29	...	231
tal,	4	...	17	14	...	695	358	261	12	5	...	665	11	3	5	5	16	233	26	18	4	331	1	2,684
1	...	...	...	...	...	3	9	5	...	...	...	58	...	...	...	...	1	31	1	3	...	50	...	161
2	...	...	...	...	...	26	15	3	1	...	...	86	...	...	...	1	1	78	4	9	1	41	...	266
3	...	...	...	...	...	27	25	2	...	...	...	36	...	...	...	...	1	54	1	3	...	25	...	174
4	...	...	...	...	...	63	23	1	2	...	...	30	...	...	...	1	1	28	3	3	...	13	...	168
5	...	...	...	...	...	60	30	...	...	1	...	15	...	...	...	...	1	20	3	2	...	12	...	144
10	...	..	1	1	...	324	147	3	1	1	1	44	...	...	...	1	2	36	13	2	1	44	...	622
15	1	...	4	6	...	147	62	7	...	...	...	30	...	...	...	2	4	8	4	...	...	27	...	302
25	4	...	3	16	..	122	72	56	2	3	...	33	7	...	...	5	4	37	9	...	...	54	...	427
35	3	...	5	3	...	48	32	32	...	...	...	21	9	...	...	3	1	13	5	...	...	28	...	203
45	2	...	1	1	...	10	6	35	...	2	...	21	7	...	...	...	...	1	...	...	...	21	...	107
5 +	2	...	1	...	...	2	4	99	...	2	...	33	5	...	...	...	...	...	...	...	...	23	..	171
tal,	12	...	15	27	...	832	425	243	6	9	1	407	28	...	...	13	16	306	43	22	2	338	...	2,745
1	...	...	...	...	...	2	2	1	6	...	...	36	...	...	...	...	1	3	...	2	...	3	...	56
2	...	...	...	...	...	3	5	1	2	...	...	22	...	...	...	...	2	7	...	...	...	3	...	45
3	...	...	...	...	...	1	4	...	...	...	...	7	...	...	...	...	2	6	...	1	...	1	...	22
4	...	...	...	...	...	1	2	...	...	...	...	5	...	...	...	...	1	4	...	...	...	...	1	14
5	...	...	...	...	...	3	5	...	1	...	...	1	...	...	...	...	1	3	...	1	...	...	...	15
10	...	...	...	...	...	2	2	...	...	...	...	3	...	...	...	...	6	...	...	...	...	1	...	14
15	...	...	...	...	...	1	...	...	1	...	...	2	...	...	...	1	...	...	...	...	...	1	...	6
25	...	...	1	...	...	...	...	1	1	...	...	11	1	...	...	1	2	...	...	...	...	3	...	21
35	...	...	1	...	...	...	...	...	...	...	...	8	...	...	...	1	...	...	...	...	...	1	...	11
45	...	...	...	...	...	1	...	4	...	1	...	21	1	...	...	1	...	...	...	...	...	3	...	32
5 +	...	..	1	...	...	...	...	19	...	...	...	30	...	...	...	...	...	...	...	...	...	6	...	56
tal,	...	...	3	...	...	14	20	26	11	1	...	146	2	...	...	4	15	23	...	4	...	22	1	292
1	...	...	...	...	...	1	4	2	...	...	...	20	...	...	...	...	1	5	...	2	...	4	...	39
2	...	...	...	...	...	5	6	...	1	...	...	20	...	...	...	1	1	10	...	...	...	2	...	46
3	..	...	...	...	...	3	2	...	...	...	...	7	...	...	...	...	...	1	...	...	...	1	...	14
4	...	...	...	...	...	1	2	1	2	...	...	1	...	...	...	...	1	1	...	1	...	...	...	10
5	..	...	...	...	...	1	...	...	...	...	..	2	...	...	...	...	1	3	...	...	...	...	...	7
10	..	...	...	...	...	5	10	...	1	...	...	...	...	...	...	1	2	...	...	...	...	2	...	21
15	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	4	...	...	...	...	...	..	6
25	1	...	1	...	...	1	..	...	2	...	...	4	2	..	...	2	3	...	...	...	...	1	...	17
35	...	...	...	...	...	2	...	3	.	...	...	1	1	...	...	1	1	...	...	...	...	1	...	10
45	...	...	...	...	...	...	...	...	...	...	...	8	1	...	...	...	...	..	...	...	...	2	..	11
5 +	1	...	1	...	...	...	...	8	...	1	...	19	2	...	...	...	...	...	...	...	...	1	...	33
tal,	2	...	3	...	...	19	24	15	6	1	...	82	6	...	...	5	14	20	...	3	...	14	...	214

RUCHILL HOSPITAL.—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during 1926.

Diagnosis Altered to	Originally Certified as														
	Enteric Fever	Continued and Undefined Fever	Scarlet Fever	Diphtheria	Erysipelas	Cerebro-spinal Fever	Lethargica Encephalitis	Acute Primary Pneumonia	Acute Influenzal-Pneumonia	Dysentery	Measles	Roseola	Whooping-Cough	Other Affections	Paratyphoid
Enteric Fever,	...	2	...	...	...	...	1	4	...	...	...	...	...	...	...
Paratyphoid Fever,	4	1	...	...	...	...	...	2	...	...	...	...	...	...	...
Puerperal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	...	...	...	10	...	1	...	11	...	...	...	...	...	1	...
Diphtheria,	...	...	8	...	...	...	...	1	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Acute Primary Pneumonia,	3	2	4	2	1	5	3	...	65	...	...	2	...	...	...
Tuberculosis (all forms),	2	2	2	1	1	13	8	21	...	...	...	...	...	1	...
Measles,	...	...	...	4	...	1	...	13	...	...	...	...	...	...	...
Roseola,	...	...	36	...	...	...	...	...	...	...	17	...	...	...	...
Whooping-Cough,	...	...	1	2	...	...	1	1	...	...	...	...	...	...	...
Chickenpox,	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...
Influenza and Influenza associated with other Diseases,	1	3	1	1	...	2	5	34	6	...	...	...	...	1	...
Other Diseases of the Nervous System,	1	...	...	...	...	4	13	1	1	...	...	...	...	...	...
Other Diseases of the Respiratory System,	...	...	5	9	1	...	2	157	5	...	3	...	...	...	...
Diseases of the Circulatory System,	...	...	1	...	...	...	1	3	...	...	...	...	...	1	...
Diseases of the Digestive System,	4	1	79	80	2	11	5	45	...	4	5	...	...	3	1
Diseases of the Skin and of the Cellular Tissue,	...	...	18	1	58	...	...	3	...	...	2	...	...	2	...
No Apparent Disease,	...	...	8	...	2	...	5	6	...	...	1	...	1	...	...
All other Diseases,	4	...	10	5	6	...	4	16	2	...	2	...	1	2	...

RUCHILL HOSPITAL.—TUBERCULOSIS, TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1926, AND THE AVERAGE RESIDENCE.

Disease.	Number of Cases Dismissed.	Number of Deaths.	Average Residence.							Average days.
			-30	-50	-100	-150 Days.	-200	-300	+300	
Pulmonary Tuberculosis—										
Early,	19	...	1	4	4	4	3	3	...	116
Intermediate,	103	5	9	15	16	23	15	13	17	163
Advanced,	212	149	80	42	77	61	37	34	30	121
Doubtful Cases,	31	...	4	...	6	9	2	4	6	178
Diagnosis not Confirmed,	44	4	4	6	12	9	6	5	6	177
Other Forms of Tuberculosis—										
Glands,	10	1	...	...	...	6	...	2	3	226
Spine,	1	...	...	...	...	1	...	...	...	138
Bones other than Spine,	2	...	...	...	...	...	...	1	1	302
Hip Joint,	...	...	...	...	...	...	...	...	...	...
Joints other than Hip,	1	...	...	...	1	...	...	...	...	55
Abdomen,	31	8	6	1	7	1	3	8	13	280
Multiple,	...	5	3	2	...	...	...	...	...	25
Genito-Urinary,	...	...	...	...	...	...	...	...	...	...
Miscellaneous,	7	7	4	2	3	2	1	...	2	132
Diagnosis not confirmed,	2	1	1	1	1	...	...	...	...	56
Total,	463	180	112	73	127	116	67	70	78	144

RUCHILL HOSPITAL.—Pulmonary Tuberculosis.—Showing Stage of Disease, Age, Result of Treatment, &c., of Patients Dismissed during 1926.

Ages.	Not Classified Further.				Result of Treatment.								Complications.						Condition on or Reason for Dismissal.										Result of Sputum Examination.															
	Less than 4 Weeks' Residence.		Deaths Among these.		Much Improved.		Improved.		Not Improved.		Died.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or Removed by Parents.		Other Reasons.		Transferred to Other Institutions.		+ Admitted. + Dismissed.		+ Admitted. - Dismissed.		- Admitted. + Dismissed.		- Admitted. - Dismissed.		No Sputum.		+ Admitted.		N. S. Dismissed.		N. S. Admitted.		+ Dismissed.		- Admitted.		N. S. Dismissed.		N. S. Admitted.		- Dismissed.	
Early Cases—	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
– 5,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 10,	...	...	...	...	1	1	...	...	...	...	...	...	1	1	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...
– 15,	...	...	...	...	...	2	2	2	...	...	...	...	2	4	...	1	1	...	...	2	...	...	2	...	...	2	...	...	...	...	...	...	1	2	1	2	...	...	...	...	...	...	...	...
– 25,	1	...	...	...	1	...	1	...	2	...	...	...	4	...	...	...	...	...	...	...	1	...	2	...	1	...	2	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
– 35,	...	...	...	...	1	2	...	1	...	...	...	...	1	3	...	1	...	1	...	3	...	...	...	1	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...
– 45,	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
45+,	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total,	1	...	...	...	4	5	3	3	3	...	...	...	10	8	1	3	1	1	1	5	...	...	4	1	3	..	2	2	4	...	...	...	1	...	3	4	2	4	...	...	...	...	..	...	...	...
Intermediate Cases—																																												
– 5,	...	...	...	...	...	1	...	...	1	...	...	...	1	1	1	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
– 10,	...	...	...	...	1	3	2	1	...	...	...	1	3	5	...	3	1	...	3	2	...	...	...	...	...	...	...	2	...	1	1	...	...	...	...	1	2	1	1	...	...	...	...	...
– 15,	...	...	...	...	1	2	1	1	...	...	...	...	2	3	1	1	1	...	1	1	1	...	...	1	...	...	...	1	...	1	...	...	...	1	2	..	...	...	...	1	...	...	...	...
– 25,	...	2	...	...	6	8	5	5	1	4	2	...	14	17	4	4	1	2	2	8	...	3	3	5	4	...	3	1	7	10	1	2	2	...	...	1	1	3	...	...	...	...	...	1	1
– 35,	...	1	...	...	4	1	4	10	...	...	1	...	9	11	4	...	...	3	1	1	1	...	5	9	...	1	1	...	2	4	2	...	2	2	2	2	...	1	...	1	...	...	...	1	...
– 45,	1	1	...	...	5	1	5	2	...	1	...	...	10	4	3	1	1	...	5	1	1	1	2	2	1	...	1	...	2	3	1	...	2	...	4	...	1	1	...	...	...	...	...	...	...
45+,	3	1	1	...	4	3	8	3	...	1	...	...	12	7	...	...	3	1	4	2	1	1	5	4	1	...	1	...	7	3	1	...	...	3	3	...	1	...	...	1	...	...	...	...	...
Total,	4	5	1	...	21	19	25	22	2	6	3	1	51	48	13	9	7	7	16	16	4	5	16	21	6	1	6	4	18	22	6	2	6	6	11	3	5	8	1	4	...	...	...	2	1	...
Advanced Cases—																																												
– 5,	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 10,	1	...	1	...	...	...	...	1	1	1	2	...	3	2	2	...	...	...	...	1	...	...	1	1	...	...	...	...	...	1	...	...	...	...	1	1	...	...	...	...	...	...	...	...
– 15,	3	2	2	2	...	2	1	2	...	...	2	2	3	6	...	2	1	...	...	2	...	...	1	...	...	...	...	2	...	3	1	...	...	..	...	...	...	1	...	...	...	...	...	...	...
– 25,	7	10	4	7	4	3	14	6	9	23	16	28	43	60	4	7	1	1	3	5	5	1	13	24	3	1	3	1	20	28	4	...	1	2	2	...	...	1	...	1	...	...	...	...	..	...
– 35,	10	10	9	7	2	6	16	8	6	7	12	7	36	28	3	4	1	1	7	2	2	...	10	17	4	2	1	...	22	17	..	...	1	1	1	1	...	2	...	...	...	...	...	...	...
– 45,	12	12	10	9	4	5	12	11	6	7	5	4	27	27	1	5	4	1	7	1	2	...	6	21	6	1	1	...	17	20	1	...	1	1	2	2	1	...	...	...	...	...	...	...	...
45+,	5	5	3	4	3	1	19	6	5	2	10	2	37	11	3	2	2	1	6	1	2	1	14	7	3	...	2	...	11	5	3	1	1	...	12	3	...	...	...	...	...	...	...	...	...
Total,	38	39	29	29	13	17	62	34	27	40	47	44	149	135	13	20	9	4	23	12	11	2	45	70	16	4	7	3	70	74	9	1	4	4	18	7	1	4	...	1	...	...	...	...	...	...

KNIGHTSWOOD FEVER AND TUBERCULOSIS HOSPITAL.

The number of patients dismissed, including deaths for the year 1926, was 1,616, as against 1,390 for the previous year.

During the year all the wards were used for the treatment of fevers, except two pavilions admitting 80 patients, in which rather less than the same number of cases of phthisis as formerly were treated, owing to the fact that during five months of the year one of these wards was used for the admission of cases of acute primary pneumonia. The number of fever patients discharged from hospital was 1,257, and 136 died, making a total of 1,393 patients. The gross mortality among these patients was 9·7 per cent., as against 11·06 per cent. for the previous year.

This mortality rate, although less than in the year 1925, was due to the fact that a little more than half of the total number of cases dismissed, including deaths, were cases of measles and acute primary pneumonia, the mortality among which was 14·7 per cent. and 13·7 per cent. respectively.

Scarlet Fever.—The number of patients treated during the year was rather less than that of the previous year, the number being 432, as against 474, although this disease appeared to have been more prevalent than usual in other areas of the City. The mortality was 1·3 per cent. as against 2·3 per cent. in the preceding year.

The illness was mainly mild in character, and all the deaths occurred in septic or toxic forms of the disease.

The Aurist visited weekly all patients suffering from otitis media, but it was not found necessary to remove the tonsils and adenoids of any of these patients in order to hasten the drying up of the discharge.

With regard to the Dick reaction, about 600 tests were carried out in cases of scarlet fever, and also in cases of the other infectious diseases. It was definitely observed that as regards age in patients suffering from various diseases other than scarlet fever, very few positive results were obtained under two years, but that many more positive reactions resulted from the second year until the tenth. It is impossible to give a definite opinion as to the exact value of this test until a toxin has been obtained which can be absolutely relied upon to give a positive reaction in every person susceptible to scarlet fever. It cannot be said that a standardised toxin of this nature has yet been issued, and it seems as if extensive tests will require to be accurately made, probably over a number of years, before absolute faith in the method can be ensured.

The new concentrated antitoxin for scarlet fever was administered to 31 acutely ill patients not later than the third day of their illness. It appeared to be undoubted that these patients experienced a feeling of well-being in about 12 to 24 hours after the administration of the serum. It cannot be definitely stated that there was any immediate diminution in the intensity of the rash, or that there was any rapid

improvement in the condition of the throat, but their general condition speedily improved. The temperature in many of these patients appeared to fall suddenly by crisis instead of by lysis, but as this sometimes occurred in cases where no serum was given, it cannot be definitely inferred that the sudden fall in temperature in all cases was entirely due to the administration of the antitoxin. A few complications did occur among the serum-treated cases, but they were not of a serious nature.

The Schultz-Charlton test was carried out on most of the patients admitted, but blanching was by no means always obtained in the early days of the rash. This blanching reaction when obtained was found to be very useful in the differential diagnosis between German measles and scarlet fever. An endeavour is being made in this hospital to cultivate the streptococcus scarlatinæ from the throats of patients suffering from scarlet fever, and to prove the presence of this micro-organism by the preparation of a toxin from same, and by the use of the Dick test and agglutination tests.

A few of the junior nursing staff were subjected recently to the Dick test, and the positive reactors are now in process of immunisation. Throughout the year only one nurse in attendance on cases of scarlet fever contracted the disease.

Diphtheria.—The number of patients discharged from hospital was 120, and 10 died, making a total of 130 patients. The cases were of a severe type, the mortality being 7·6 per cent., as against 2 per cent. in the previous year.

Out of a total of 10 deaths, 5 deaths were due to cardiac paralysis, 3 deaths were the result of laryngeal diphtheria, and the remaining 2 deaths were due to enteritis.

The Aurist enucleated the tonsils and removed the adenoids from three children who were found to be carriers, and in a very short time after the operation these children were able to be dismissed.

The Schick test was performed on 14 nurses, 4 of whom were found to give a positive reaction, and were later immunised against the disease with toxin-antitoxin mixture.

No member of the staff contracted the disease throughout the year.

Measles.—The number of cases treated was 420. Measles was the disease which through its complications was the most fatal of the infections. The fatality rate, 14·7 per cent., was for the most part due to pneumonia, either alone or combined with gastro-enteritis.

Blindness unfortunately resulted in one case from a severe pneumococcal infection of the conjunctiva.

The type of case admitted was not unusually severe, and the general condition of the children was fairly good.

Pneumonia.—The number of patients treated totalled 313, and of these 99 were cases of broncho-pneumonia, 174 were cases of lobar pneumonia, and 40 were found to be suffering only from bronchitis. This was the other disease which was one of the most fatal of the infections.

The mortality rate for the whole group was 13·7 per cent., which was very much less than in the previous year when the mortality rate was 25·5 per cent. The death-rate for the cases of broncho-pneumonia was 17·2 per cent., and in a little less than half of the latter percentage of cases, enteritis, as in former years, was a serious complication. The type of case admitted was not so severe as in the previous year, and the general condition of the children in particular appeared to be fairly good.

Whooping-cough. — The number of patients discharged from hospital was 68, and 11 died, making a total of 79 patients. Ether in oil was administered per rectum to a few of those patients in an endeavour to minimise the severity of the cough, but it was not observed that any definite benefit resulted from this form of treatment.

The majority of the deaths were due to pneumonia either alone or combined with enteritis.

Pulmonary Tuberculosis.—During the past year 161 phthisis cases were discharged from hospital, and 62 died, making a total of 223 patients. The hospital was mainly used for the treatment and isolation of the more advanced types of cases. As an illustration of this, no less than 70 cent. of these cases were in an advanced stage of the disease on admission to hospital.

The following table shows the medical classification into which these patients were grouped when admitted :—

Stage of Disease.	Number of Cases.	Number of Deaths in each group.
Early, ...	15	—
Intermediate, ...	53	1
Advanced, ...	155	61
Total, ...	223	62

Details of each of these groups are shown in the appended table, the salient points of which may be summarised as follows :—

Stage of Disease.	Arrested.	Much Improved.	Improved.	Not Improved.	Died.	Total.
Early Cases, ...	—	1	14	—	—	15
Intermediate Cases,	—	—	47	3	1	51
Advanced Cases, ...	—	—	69	12	39	120
Total, ...	—	1	130	15	40	186

Note.—The above table excludes 15 patients whose duration of stay was less than four weeks, and 22 patients who died within a month of admission.

As regards age, it will be noted that all the patients were over 12 years.

Apart from careful nursing, and attention to the general health, no special form of treatment was adopted, as the majority of these patients were in a very advanced stage of the disease.

The health of the hospital staff has been good, no illness of a serious nature having occurred.

WILLIAM DOW,
Physician-Superintendent.

31st March, 1927.

KNIGHTSWOOD HOSPITAL.—Statement of Cases Treated According to Sex.

Data based on Dismissals and Deaths for Year 1926.

Disease.	In Hospital 1st Jan.		Admitted.		Dismissed.		Died.		Remaining in Hospital. 31st Dec.		Mortality per cent		Av. Residence (Days)			
													Dismissals.		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Typhus,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued and Undefined,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal,	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox,	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	27	43	218	253	194	232	3	3	48	61	1·5	1·3	43	43	22	16
Diphtheria and Memb. Croup,	11	6	73	67	59	61	7	3	18	9	10·6	4·7	40	40	30	24
Erysipelas,	...	...	...	1	...	1	...	...	...	...	...	...	...	19	...	...
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...
Acute Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polioencephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	. .	...	...	...
Acute Poliomyelitis,	...	..	...	..	..	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	15	15	224	132	157	113	29	14	53	20	15·6	11·0	44	45	21	19
Acute Influenzal-Pneumonia,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malaria,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery.	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	..
Trench Fever,	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles,	58	35	138	189	163	195	33	29	...	..	16·8	13·0	38	40	30	36
German Measles.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping-Cough,	.	1	43	35	39	29	4	7	...	...	9·3	19·4	30	32	21	20
Chickenpox,	...	...	1	...	1	...	...	...	...	...	...	...	90	...	...	...
Others	1	1	5	15	1	12	2	2	3	2	66·7	14·3	40	34	..	..
Totals,	112	101	702	692	614	643	78	58	122	92	11·3	8·3	46	36	25	23

KNIGHTSWOOD HOSPITAL.—STATEMENT SHOWING AGE AND SEX DISTRIBUTION OF CASES DISMISSED, AND DEATHS DURING THE YEAR 1926.

	Age.	Paratyphoid B.	Typhus.	Enteric.	Puerperal.	Smallpox.	Scarlet Fever.	Diph. and Memb. Croup.	Erysipelas.	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Poliomyelitis.	Acute Primary Pneumonia.	Acute Influenzal Pneumonia.	Malaria.	Dysentery.	Pulmonary Tuberculosis.	Other Forms of Tub.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Total.
Cases (including Deaths).																								
Male.	1	...	...	...	...	...	1	1	...	...	...	...	19	...	...	...	...	...	12	...	20	...	2	55
	2	...	...	...	...	...	9	6	...	...	...	..	36	...	...	...	..	...	43	...	15	...	...	109
	3	...	...	...	...	...	15	4	...	...	...	...	25	...	...	...	...	...	39	...	2	...	...	85
	4	...	...	...	...	...	15	13	...	...	...	...	22	...	...	...	...	...	56	...	2	...	...	108
	5	..	...	...	...	...	24	6	...	...	...	...	18	...	...	...	...	...	18	...	2	...	...	68
	10	...	...	...	...	...	69	13	...	...	...	...	16	...	...	...	...	...	26	...	2	1	1	128
	15	...	...	...	...	...	38	7	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	53
	25	...	...	...	...	...	21	8	...	...	...	...	18	...	...	...	...	...	1	.	...	...	...	48
	35	...	...	...	...	...	3	4	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	13
	45	...	...	...	...	...	1	4	...	..	...	...	10	...	...	...	...	...	1	...	...	...	...	16
	45 +	...	..	...	...	..	1	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	...	9
Total,		...	...	...	...	...	197	66	...	...	...	...	186	...	...	...	...	...	196	...	43	1	3	692
Female.	1	...	...	...	...	...	2	1	...	...	...	...	8	...	...	...	...	...	24	...	3	...	...	38
	2	...	...	...	...	...	9	1	...	...	...	...	23	...	...	...	...	...	52	...	11	...	...	96
	3	...	...	...	...	...	14	9	...	...	...	...	20	...	...	...	...	...	46	...	6	...	...	95
	4	...	...	...	...	...	14	6	...	...	...	...	18	...	...	...	...	...	44	...	6	...	...	88
	5	...	...	...	...	...	29	5	...	...	...	...	11	...	...	...	...	...	11	...	5	...	1	62
	10	...	...	...	...	...	78	20	...	...	...	...	13	...	...	...	..	...	27	...	5	...	...	143
	15	...	...	...	...	...	41	8	...	...	...	...	10	...	...	...	...	...	1	...	...	...	...	60
	25	...	...	...	...	...	35	11	...	...	...	...	5	...	...	...	...	...	9	...	...	...	10	70
	35	...	...	...	...	...	9	1	...	...	...	...	11	..	...	...	...	...	5	...	...	...	1	27
	45	...	...	...	..	...	3	1	...	...	...	...	4	...	...	..	...	...	5	...	...	...	...	13
	45 +	...	...	...	...	...	1	1	1	...	...	...	4	...	...	...	...	...	...	...	...	...	2	9
Total,		..	...	...	...	...	235	64	1	...	...	...	127	...	...	..	...	...	224	...	36	...	14	701
Deaths.																								
Male.	1	...	...	...	...	...	...	1	...	..	...	...	4	..	...	...	...	...	4	...	1	...	1	11
	2	...	...	...	...	...	1	1	...	...	...	...	7	...	...	...	...	..	16	...	2	...	...	27
	3	...	...	...	...	...	1	1	...	...	...	...	3	...	...	...	...	...	4	...	1	...	...	10
	4	...	...	...	...	...	1	1	...	...	...	...	3	...	...	...	...	...	9	...	...	...	...	14
	5	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2
	10	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	1	7
	15	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	25	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	35	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	45	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	3
	45 +	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2
Total,		...	...	...	...	...	3	7	...	...	...	...	29	...	...	...	...	...	33	...	4	...	2	78
Female.	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	2	...	1	...	...	5
	2	...	...	...	...	...	...	1	...	...	...	...	4	...	...	...	...	...	17	...	2	...	...	24
	3	...	...	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	3	...	2	...	...	8
	4	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	5	...	...	...	...	7
	5	...	...	...	...	...	...	1	...	...	...	...	...	..	...	...	...	...	...	...	2	...	1	4
	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2
	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	25	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	2
	35	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2
	45	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
	45 +	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	3
Total.		...	...	...	...	...	3	3	...	...	...	...	14	...	...	...	...	...	29	...	7	...	2	58

KNIGHTSWOOD HOSPITAL.—TABLE SHOWING ALTERATIONS IN DIAGNOSIS OF CASES AND DEATHS DURING 1926.

Diagnosis Altered to	Originally Certified as													
	Enteric Fever	Continued and Undefined Fever	Scarlet Fever	Diphtheria	Erysipelas	Cerebro-spinal Fever	Lethargica Encephalitis	Acute Primary Pneumonia	Acute Influenzal Pneumonia	Dysentery	Measles	Roseola	Whooping-Cough	Other Affections
Enteric Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paratyphoid Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Diphtheria,	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Cerebro-spinal Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis (all forms),	...	...	...	...	...	...	...	3	...	...	...	...	...	2
Measles,	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Roseola,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Whooping-Cough,	...	...	1	...	...	...	...	1	...	...	...	...	...	...
Chickenpox,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Influenza and Influenza associated with other Diseases,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Nervous System.	...	...	1	1	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Respiratory System,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Circulatory System,	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Digestive System,	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Diseases of the Skin and of the Cellular Tissue,	...	...	...	1	...	...	...	...	...	...	...	...	...	...
No Apparent Disease,	...	...	2	...	...	...	...	1	...	...	...	...	...	...
All other Diseases,	...	...	1	1	...	...	...	...	...	...	...	...	...	...

KNIGHTSWOOD HOSPITAL.—PULMONARY TUBERCULOSIS.—TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1926, AND THE AVERAGE RESIDENCE.

	Number of Cases Dismissed.	Number of Deaths.	Average Residence.						
			-30	-50	-100	-150 days.	-200	-300	+300
Pulmonary Cases—									
Early,	15	...	...	5	9	1	...	...	...
Intermediate,	52	1	4	9	14	11	12	2	1
Advanced,	94	61	14	38	43	24	20	14	2
Total,	161	62	18	52	66	36	32	16	3

KNIGHTSWOOD HOSPITAL.—PULMONARY TUBERCULOSIS.—SHOWING STAGE OF DISEASE, AGE, RESULT OF TREATMENT, &c., OF PATIENTS DISMISSED DURING 1926.

Ages.	Not Classified further.				Result of Treatment.										Complications.				Condition on or Reason for Dismissal.										Result of Sputum Examinations.									
	Less than 4 Weeks' residence.		Deaths among these		Much Improved.		Improved.		Not Improved.		Died.		Total.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or removed by Parents.		Other Reasons.		Transferred to other Institutions.		+Admitted. +Dismissed.		+Admitted. -Dismissed.		-Admitted. +Dismissed.		-Admitted. -Dismissed.		No Sputum.	
Early Cases—	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
-5, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-10, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-15, - -	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
-25, - -	...	...	...	...	1	...	7	...	...	...	...	...	8	...	...	...	...	...	8	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	6	...	...	...
-35, - -	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
-45, - -	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...
45+, - -	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...
Total, -	...	...	...	...	1	...	14	...	...	...	...	...	15	...	...	...	...	...	15	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	12	...	...	...
Intermediate Cases—																																						
-5, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-10, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-15, - -	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
-25, - -	1	...	...	...	...	...	2	...	2	...	...	...	4	...	...	...	...	...	2	...	2	...	...	...	...	...	...	...	1	...	...	...	...	...	3	...	...	...
-35, - -	1	...	...	...	...	...	15	...	1	...	1	...	17	...	...	...	...	...	15	...	1	...	...	...	...	...	...	...	8	...	...	...	...	...	9	...	...	...
-45, - -	...	...	...	...	...	...	13	...	...	...	...	...	13	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...	4	...	...	...	...	...	9	...	...	...
45+, - -	...	...	...	...	...	...	16	...	...	...	...	...	16	...	...	...	...	...	10	...	6	...	...	...	...	...	...	...	3	...	...	...	...	...	12	...	1	...
Total, -	2	...	...	...	...	...	47	...	3	...	1	...	51	...	...	...	...	...	41	...	9	...	...	...	...	...	...	...	16	...	...	...	...	...	34	...	1	...
Advanced Cases—																																						
-5, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-10, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
-15, - -	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
-25, - -	9	.	4	...	...	...	14	...	3	...	16	...	33	...	...	...	...	...	7	..	10	...	...	...	...	...	...	...	30	...	...	...	...	...	3	...	...	...
-35, - -	11	...	7	..	...	..	16	...	3	...	10	...	29	...	...	...	...	...	5	..	14	...	...	...	...	...	...	...	21	.	...	...	...	...	8	...	...	...
-45, - -	9	...	9	.	...	...	14	.	1	...	4	..	19	...	...	...	...	...	6	...	9	..	...	...	...	...	...	...	12	...	...	...	...	...	7	...	...	...
45+, -	6	..	2	...	...	...	25	.	5	.	8		38	...	...	...	...	...	9	...	21	...	...	...	...	...	...	...	29	...	...	...	...	.	9	...	...	...
																													93						27			

SHIELDHALL FEVER HOSPITAL.

During the year 1,190 patients passed through the hospital, an increase of 144 as compared with the previous twelve months. The general death-rate was 8·4 per cent., as compared with 11·0 per cent. During the greater part of the year the hospital was fully occupied.

There were two cases of infectious disease among members of the staff, one nurse contracting scarlatina and another diphtheria. The susceptibility of the nursing staff to diphtheria has since been determined by means of the Schick test, and those giving a positive result (33 per cent.) immunised.

An important advance in the treatment of infectious diseases has been made by the appointment of a visiting aural surgeon. A summary of his work here is as follows :—

Disease.	No. of Patients.	Operations.
Scarlatina, ...	53	15
Measles.	11	—
Other Diseases, ...	15	2
	79	17

Total attendances, 195.

The principal diseases dealt with during the year will now be considered.

Scarlatina.—110 cases. A mild type of infection prevailed, very few septic cases being seen. About a third of the number showed complications, most common being—

Cervical Adenitis, ...	in 13·4	per cent.
Rhinitis, ...	in 13·2	,,
Otitis Media, ...	in 9·0	,,
Rheumatism, ...	in 6·8	,,
Albuminuria, ...	in 4·4	,,
Endocarditis, ...	in 1·5	,,

By far the most important of these, as regards frequency, prolongation of hospital residence, and possible infection of others after the patients' dismissal, are discharges from the ears and nose. The chief work of the aural surgeon has been to combat these conditions by the removal, where necessary, of infected tonsils and adenoids. The operation, which is done under chloroform anæsthesia, produces little disturbance, and after-pain is very slight. Young children especially seem to experience no discomfort whatever. The need for prophylactic inoculation against diphtheria before operation, a procedure considered essential by some authorities, has never been apparent. Of 37 cases of otorrhœa, 10 were operated on, with the following results :—

Average time of onset of discharge, - -	12th day of illness.
Average duration of discharge (all cases), -	40·0 days.
,, ,, ,, after operation,	14·9 ,,

The actual duration of discharge after operation in each case was (in days) 2, 2, 3, 7, 8, 10, 13, 16, 27, and 61 days. From these

figures it may be said that the operation is frequently of great benefit, sometimes less clearly beneficial, and occasionally useless. Romoval of tonsils and adenoids was carried out in 5 cases of rhinorrhœa; the results were less striking than in many of the cases of otorrhœa, the discharge tending to persist for a considerable time after operation. There was no example of acute mastoid complication.

The streptococcus antitoxin of Parke, Davis, & Co. has been used in the treatment of all the severe cases of scarlatina, and has proved of considerable value. A decided fall in temperature and pulse-rate within 24 hours of administration was observed in nearly every patient so treated. The serum does not always prevent complications, however, and it is questionable whether its use materially shortens the period of detention in hospital. In the numerous mild cases of scarlatina serum administration appears to be quite unnecessary.

Pneumonia.—288 cases. The accommodation of the pneumonia ward has been fully taxed during most of the year. Not all the patients admitted suffer from pneumonia; many of the babies are restored to health within a day or two by cleanliness and the improvement in diet. The number of beds available for true pneumonia cases is thus reduced.

There were 12 cases of empyema, all of which were operated on with 4 deaths. Other complications included pleurisy with effusion, pneumococcal meningitis, phlegmasia dolens (2 cases), and enteritis. The last was fairly common, and proved particularly fatal in young infants.

Diphtheria.—200 cases. The following were the types of the disease met with:—Faucial, 165; faucial and nasal, 4; faucial and laryngeal, 10; laryngeal, 13; bacteriological (no clinical signs), 8. There were 9 deaths, 2 of these being nasal cases. Serious cardiac complications appeared in 4 (all fatal), and 19 patients suffered from palatal or ciliary paralysis. Of the laryngeal cases, 5 required tracheotomy, all of these making a good recovery, though in two instances the tracheal cannula was worn for six weeks after operation. Tonsils and adenoids were removed in two patients whose throat culture remained positive; in each case the operation was successful, the culture being negative a fortnight later.

Measles.—234 cases. Practically all of these came into hospital during the period January-March. Complications appeared in fully half the number, most common and fatal being broncho-pneumonia and enteritis. Otitis media was another common sequel, and this condition was dealt with by the aural surgeon. None of the measles cases, however, were operated on.

Altered Diagnosis.—62 patients were admitted, of whom the original diagnoses had to be revised. This number included a few cases of German measles, whooping-cough, &c., but the majority were not suffering from any infectious disease.

WILLIAM NAPIER,
Physician-Superintendent.

22nd March, 1927.

SHIELDHALL HOSPITAL.—Statement of Cases Treated according to Sex.
Data Based on Dismissals and Deaths for Year 1926.

Disease.	In Hospital 1st Jan.		Admitted.		Died.		Dismissed.		Remaining in Hospital at 31st Dec.		Mortality Per Cent.		Average Residence (Days). Dismissals.		Average Residence (Days). Deaths.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Typhus,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued and Undefined,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal,	...	...	...	2	...	1	...	1	...	...	...	50·0	...	24	...	4
Smallpox,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever,	22	22	181	251	3	2	169	236	31	35	1·7	·8	47	45	5	8
Diphtheria and Memb. Croup,	9	17	91	109	5	4	84	107	11	15	5·6	3·6	48	45	8	4
Erysipelas,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebro spinal Fever,	...	...	1	1	1	1	...	...	...	...	100·0	100·0	...	...	6	5
Ophthalmia Neonatorum,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trachoma,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lethargica Encephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Polioencephalitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Poliomyelitis,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Lobar-Pneumonia,	4	2	109	41	19	5	86	36	8	2	18·0	12·2	32	38	12	20
Acute Broncho-Pneumonia,	2	2	82	70	15	13	62	52	7	7	19·4	20·0	27	29	12	6
Malaria,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dysentery,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trench Fever,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Non-Pulmonary Tuberculosis,	...	...	1	1	1	1	...	...	...	...	100·0	100·0	...	...	25	38
Measles,	20	12	116	86	21	8	115	90	...	...	15·4	8·1	27	23	18	16
German Measles,	...	...	4	9	...	...	4	9	...	...	...	...	18	12	...	...
Whooping-Cough,	...	...	2	3	...	...	2	2	...	1	...	...	36	30	...	...
Chickenpox,	1	...	...	...	...	...	1	...	...	...	...	...	34	...	...	..
Other Affections—*e.g.*, Mumps, Vincent's Angina,	1	...	14	19	...	...	15	19	...	...	...	...	19	20	...	...
Total,	59	55	601	592	65	35	538	552	57	60	10·8	5·9	37·2	38·2	13·7	11·3

SHIELDHALL HOSPITAL.—Statement showing Age and Sex Distribution of Cases Dismissed, and Deaths during the Year 1926.

	Age.	Paratyphoid B.	Typhus.	Enteric.	Puerperal.	Smallpox.	Scarlet Fever.	Diph. and Memb. Croup.	Erysipelas	Cerebro-spinal Fever.	Lethargica Encephalitis.	Acute Polio-encephalitis.	Acute Lobar-Pneumonia.	Acute Broncho-Pneumonia.	Malaria.	Dysentery.	Non-Pulmonary Tuberculosis.	Measles.	German Measles.	Whooping-Cough.	Chickenpox.	Other Affections.	Total
Cases (including Deaths).																							
Male.	– 1	...	...	...	...	...	...	9	...	...	...	...	...	33	...	...	...	10	...	...	1	7	6
	– 2	...	...	...	...	...	8	7	...	1	...	...	1	26	...	...	...	35	...	1	...	2	8
	– 3	...	...	...	...	...	16	13	...	...	...	...	2	8	...	...	1	27	...	...	...	1	6
	– 4	...	...	...	...	...	18	10	...	...	...	...	3	3	...	...	...	19	...	...	...	...	5
	– 5	...	...	...	...	...	27	11	...	...	...	...	1	3	...	...	...	13	1	1	...	2	5
	– 10	...	...	...	...	...	68	23	...	...	...	...	15	3	...	...	...	22	3	...	...	...	13
	– 15	...	...	...	...	...	23	5	...	...	...	...	13	1	...	...	...	1	...	...	...	1	4
	– 25	...	...	...	...	...	10	7	...	...	...	...	29	...	...	...	...	5	...	...	...	...	5
	– 35	...	...	...	...	...	...	3	...	...	...	...	11	...	...	...	...	3	...	...	...	1	1
	– 45	...	...	...	...	...	2	...	...	...	...	...	12	...	...	...	...	1	...	...	...	...	1
	45 +	...	...	...	...	...	...	1	...	...	...	...	18	...	...	...	...	...	...	...	...	1	2
Total,		...	...	...	...	...	172	89	...	1	...	...	105	77	...	...	1	136	4	2	1	15	60
Female.	– 1	...	...	...	...	...	1	2	...	...	...	...	...	21	...	...	...	11	...	...	...	3	[illegible]
	– 2	...	...	...	...	...	7	7	...	1	...	...	...	22	...	...	...	19	1	1	...	1	[illegible]
	– 3	...	...	...	...	...	9	9	...	...	...	...	...	10	...	...	...	17	1	...	...	...	[illegible]
	– 4	...	...	...	...	...	19	14	...	...	...	...	2	6	...	...	...	13	2	...	...	...	[illegible]
	– 5	...	...	...	...	...	21	13	...	...	...	...	6	1	...	...	...	6	...	...	...	3	[illegible]
	– 10	...	...	...	...	...	108	31	...	...	...	...	8	5	...	...	...	9	2	1	...	...	10
	– 15	...	...	...	...	...	39	19	...	...	...	...	5	...	...	...	...	...	...	...	...	...	[illegible]
	– 25	...	...	...	1	...	29	11	...	...	...	...	4	...	...	...	1	19	1	...	...	9	[illegible]
	– 35	...	...	...	...	...	5	2	...	...	...	...	10	...	...	...	...	4	2	...	...	1	[illegible]
	– 45	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	[illegible]
	45 +	...	...	...	...	...	...	3	...	...	...	...	5	...	...	...	...	...	...	...	...	2	
Total,		...	...	...	2	.	238	111	...	1	...	...	41	65	...	...	1	98	9	2	...	19	5
Deaths.																							
Male.	– 1	...	...	...	...	...	...	1	...	...	...	...	...	10	...	...	...	3	...	...	...	...	
	– 2	...	...	...	...	...	1	2	...	1	...	...	...	5	...	...	...	12	...	...	...	...	
	– 3	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	
	– 4	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5	...	...	...	...	
	– 5	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	– 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	– 15	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
	– 25	...	...	...	...	...	1	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	
	– 35	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	
	– 45	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	...	...	...	...	...	...	
	45 +	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	
Total,		...	...	...	...	...	3	5	...	1	...	...	19	15	...	...	1	21	...	...	...	...	
Female.	– 1	...	...	...	...	...	...	...	...	...	...	...	...	8	...	...	...	3	...	...	...	...	
	– 2	...	...	...	...	...	...	1	...	1	...	...	...	5	...	...	...	3	...	...	...	...	
	– 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	
	– 4	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	– 5	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	
	– 10	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	– 15	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	– 25	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
	– 35	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
	– 45	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
	45 +	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
Total,		...	...	...	1	...	2	4	...	1	...	...	5	13	...	...	1	8	...	...	...	...	5

IELDHALL HOSPITAL—Table showing Alterations in Diagnosis of Cases Dismissed and Deaths during the Year 1926.

Diagnosis Altered to	Originally Certified as					
	Diphtheria.	Scarlatina.	Measles.	German Measles.	Whooping-Cough.	Pneumonia.
htheria, - - -	...	1	...	...	...	2
latina, - - -	1	...	2	...	...	2
htheria and Scarlatina,	1	4	...	...	...	...
sles, - - -	3	...	...	...	...	4
man Measles, - -	...	10	3	...	...	...
ooping-Cough, - -	...	...	...	...	...	4
umonia, - -	...	2	...	...	...	...
nchitis, - - -	...	3	...	...	...	...
bro-spinal Fever, -	...	...	...	...	...	2
rperal Fever, - -	...	...	...	...	...	1
eritis, - - -	...	1	...	...	...	...
sillitis, - - -	1	3	...	...	...	...
ngismus Stridulus, -	1	...	...	...	...	...
thema, - - -	...	4	...	1	...	...
apparent Disease, -	3	2	...	...	...	1

ROBROYSTON TUBERCULOSIS HOSPITAL.

Surgical Cases.

Glands.

Surgical Table No. 1.—The most noteworthy feature about the gland cases relates to treatment. The percentage of cases with abscesses treated by aspiration has been halved, and consequently more cases have fallen into the category suitable for operation, that is cases with an obvious focus of entry such as tonsils or teeth, and due to lymphatic spread therefrom. Late cases, usually with sinus formation, continue to make up the bulk of the numbers—74·5 per cent. as compared with 79·6 per cent. last year and 81·2 per cent. in 1924. Many of these have received "light treatment."

Spine.

Surgical Table No. 2.—The number of spinal cases passing out of the hospital remains steady. The percentage discharged fit has fallen from 52·6 per cent. to 35·2 per cent. This figure is the lowest since 1922-23. Two factors seem to have operated in the production of this drop. In the first place, more patients have been unable to remain here sufficiently long to get complete arrest of their lesion, and have left on their own account or at the request of relatives. Secondly, among the 15 cases over 25 years of age suffering from tuberculosis of the spine, only 2 were discharged fit. It becomes increasingly evident that, in the adult, tuberculosis of the spine gives unsatisfactory results, and is at the same time a severe strain on the accommodation of the hospital. Once more it is of importance to recognise that while the deaths total 13, the number admitted with sinuses was 9. It has frequently been stated in these reports that, apart from an occasional death from tuberculous meningitis, which is of course uncontrollable, the success in the treatment of Pott's disease depends on two things—a sufficiently lengthy treatment to permit of reorganisation and consolidation of bone and the avoidance of secondary pyogenic invasion through sinus formation by aspiration of abscesses at suitable intervals.

The average duration of stay has been shortened from 636 days to 520 days on account of the removal of patients before their treatment was completed.

Bones other than Spinal.

Surgical Table No. 3.—The numbers and the results obtained are practically the same as in 1925. The cases are mainly examples of tuberculous dactylitis, tuberculosis in the diaphyses of long bones, and tuberculosis of the cranial bones. Most of them were complicated by sinus formation. In tuberculous dactylitis the results are mainly good, but treatment is very protracted, and deformity, due to collapse of the diseased area, is the rule. Diaphyseal tubercle of long bones is very amenable to treatment, even when there are abscesses, and no deformity results. Tuberculosis of the cranial bones, especially the malar, has been found to be very refractory, and secondary foci of disease frequently appear elsewhere in the body.

Hip Joint.

Surgical Table No. 4.—An increase has taken place in the number of hip cases dismissed from 33 to 50. Of these, 66·6 per cent. have been discharged as fit, as compared with 60·6 per cent. in 1925 and 53·3 per cent. in 1924. The average duration of residence in hospital is practically unchanged. One of the most satisfactory features of the hospital's career has been the steady progress in the end results of this form of tuberculosis.

Joints other than Hip.

Surgical Table No. 5.—The type of cases included in this table are knee, ankle, elbow, and wrist tuberculosis. Whereas last year 55·5 per cent. were discharged fit, this year the percentage has increased to 68·8. Even yet almost 50 per cent. admitted are suffering from abscess and sinus complications. These are the lesions which are eminently suitable for "light treatment," and undoubtedly much of the improvement in the results recorded is due to this innovation. Restoration of function in the affected joint, which after all is the main criterion of success, is now more frequently and more easily obtained.

Abdominal Tuberculosis.

Surgical Table No. 6.—There has been a considerable increase in the number of the more acute forms of abdominal tuberculosis, and a corresponding fall in the fit rate from 59·3 per cent. to 41·4 per cent. There have also been several cases admitted with fæcal fistulæ, where hope of improvement is very slight.

Treatment.

Practically no innovations in the methods of treatment have to be recorded. The now well-established conservative methods whereby the tuberculous condition in general as well as its local lesions are treated have been continued.

Artificial Light Therapy.—During the period under review 160 patients received ultra-violet light treatment, and the total exposures numbered 12,170. The work of the light department was considerably restricted during the coal stoppage (May-November) in order to conserve the supply of electricity. The results of treatment continued to be encouraging, and some kind of ultra-violet radiation may be regarded as necessary in lupus and surgical tuberculosis, and to a lesser extent in carefully selected cases of pulmonary phthisis. Of the total number of cases, which fall into the following groups, over 60 per cent. were ambulant :—

Lupus Vulgaris, ...	17	Genito-Urinary, ...	2
Glands, ...	30	Abdomen, ...	9
Joints, ...	34	Pulmonary, ...	24
Bones, ...	17	Spine, ...	8
Multiple, ...	13	Miscellaneous, ...	6
Total, ...	160		

So far it has only been possible to give this treatment in the "light room" to a few of the many serious cases in hospital, due to the difficulty of transport, and also to the risk in moving spine and hip cases which require continuous immobilisation. The provision of some kind of ultra-violet radiation elsewhere for such cases is necessary.

ETHYL MORRHUATE.

During the year 46 cases have been treated by ethyl morrhuate as advocated by Sir Leonard Rogers. Of these, 16 have been dismissed or have died, while in the 30 remaining in hospital the treatment has been discarded.

The 16 completed cases may be classified as follows :—

Site of Lesion.	No.	Result of Ethyl Morrhuate.				Developed Amyloid Disease.	Developed Pulmonary Tuberculosis.
		Healed.	Improved.	Not Improved.	Died.		
Spine, - -	6	—	1	3	2	3	1
Hip Joint, - -	1	—	—	—	1	—	1
Sacro-iliac Joint,	1	—	1	—	—	—	—
Elbow Joint, -	2	1	—	1	—	—	—
Ankle Joint, -	1	1	—	—	—	—	—
Bones, - -	2	1	—	1	—	—	—
Abdomen, - -	1	—	—	—	1	—	—
Glands, - -	1	—	—	—	1	—	1
Multiple, - -	1	—	—	1	—	1	—

Only 3 out of the 16 cases could be described as healed, and there is no evidence that they were favourably influenced by ethyl morrhuate injections. They had been improving steadily before the injections began, and progress was not accelerated thereafter. Five cases died. It will be observed that ethyl morrhuate had no influence in arresting the onset of amyloid disease, and that in 3 cases pulmonary tuberculosis developed.

Of the 30 cases still in hospital little can be said, save that in none of them could any improvement be ascribed to ethyl morrhuate. Its use has been given up. It seemed to be an agent powerless to influence tuberculosis in any way.

Aspirations and Injections.—In almost all cases complicated by the presence of abscesses treatment by aspiration has been carried out as in former years, and into many of the abscesses modifying fluids have been injected. Sinuses have been treated by paste injections. During 1926, 2,310 aspirations were performed and 250 fluid and 215 paste injections given.

Operations.—Operations are still necessary in many of the complicated cases of bone and joint tuberculosis in order to permit of free drainage from sinuses, &c. In the case of disease of the knee and hip joint, even after the disease is quiescent, it is frequently necessary to correct a bad position by means of a tenotomy and manipulation after

ordinary measures of extension have failed. In cervical adenitis operation is also still carried out, and in abdominal tuberculosis under the indications fully detailed in former reports. During the year 152 operations were carried out, of which 70 were major and 82 minor operations.

Appliances.—The Berck spinal tray and the Carshalton orthopædic carriage are still being used in the treatment of spinal caries, and hip-joint cases are treated by the adjustable extension apparatus previously described. When the active stage of the disease has passed and the patients are permitted up, immobilisation is secured by means of a certalmid apparatus. Certalmid is being used practically exclusively now, because it is found to be cheaper and to require less frequent repairs than celluloid. During 1926, 298 plaster and 106 certalmid splints were constructed.

Out-patient Clinic.—Mr. Taylor conducted, as in previous years, the out-patient clinic at Granville Street Dispensary, where he saw patients, sent to him by the tuberculosis officers, for advice as to treatment or diagnosis. He also saw regularly patients discharged wearing appliances, and so was able to regulate after treatment.

Radiology. — Routine radiological examination of cases for diagnosis and regulation of treatment has been carried out. During the year 833 patients have been X-rayed, and 1,239 skiagrams taken.

DENTAL TREATMENT.

During the year Dr. Hugh Mackay, L.D.S., made in all 48 visits, and the dental work carried out is as follows :—

Fillings,	Amalgam,	95
	Cement,	44
Extractions with General Anæsthetic,		111
Extractions with Local Anæsthetic,		570
Scaling,		300
Pulpitis Cases,		2
Upper Dentures,		1
Lower Dentures,		1
Consultations,		260 (Appro.)

Laboratory.—Examinations have been carried out as follows :—

Sputum for tubercle bacillus,	696
Diphtheria cultures,	760
Urines (microscopical investigations, cultures, &c.),	74
Cultures from sinuses,	50
Miscellaneous,	42

EDUCATION.

The Glasgow Education Authority continued to provide four teachers for the education of children. In addition to the tuition of ambulant children in the schoolroom, over 85 children received bedside instruction. The average number of children on the school roll was 49, with an average attendance of 33. The attendance at school was rather irregular, being affected by the dismissal of patients, the periodic transference of children to Seaforth Home, Conon Bridge, and also the occurrence of infectious fevers in the various wards, necessitating the affected ward being put in quarantine for a time. All educational arrangements are under the control of the Education Authority, and the four teachers provided by them. The hospital only decides what children are to receive either school or bedside tuition. It may be added that this branch of education does not appear to come within the survey of H.M. Inspector of Schools.

PNEUMONIA.

At the end of the Appendix is given a table showing particulars of cases of pneumonia treated when accommodation had to be provided here during pressure at the fever hospitals.

JOHN WATSON,
Physician-Superintendent.

24th February, 1927.

Table A. — During the year 24 non-tuberculous patients were treated, and the subjoined statement indicates the nature of their disease :—

Disease.	Number of Cases.
Lymphadenoma.	1
Double Coxa Valga, ...	1
Scoliosis, ...	2
Internal derangement of the knee joint, ...	1
Chronic Osteomyelitis, ...	3
Carcinoma of stomach, ...	1
Sarcoma of right iliac bone, ...	2
Carcinoma of Pharynx, ...	1
Syphilis of Malar Bone, ...	1
Syphilis of Spine, ...	1
Sarcoma of Stomach, ...	1
Bronchiectasis, ...	1
Rickets, ...	1
Sarcoma of Finger, ...	1
Rheumatoid Arthritis of Spine, ...	1
No abnormality found (under observation for tuberculosis of lungs).	1
Myelogenous Leukaemia, ...	1
Influenzal-Pneumonia, ...	1
Sarcoma of Sacrum, ...	1
Sprengel's Shoulder, ...	1
	24

The following table indicates the state of nutrition of the various groups of tubercular patients on admission :—

Disease.	Good.	Fair.	Poor.	Total.
Pulmonary Tuberculosis—				
Early,	3	16	6	25
Intermediate,	6	36	21	63
Advanced,	8	34	81	123
Non-Tuberculous,	8	10	6	24
Other Forms of Tuberculosis—				
Spine,	18	19	17	54
Glands,	21	19	8	48
Bones other than Spine,	15	9	2	26
Hip Joint,	18	21	11	50
Joints other than Hip,	20	34	10	64
Abdomen,	7	24	27	58
Multiple,	5	17	13	35
Genito-Urinary and Miscellaneous,	3	4	4	11
Totals,	132	243	206	581

Vermin were found on the head or body or both in 38 °/₀ of admissions during the year.

ROBROYSTON HOSPITAL.—TABLE SHOWING CASES DISMISSED AND DEATHS DURING THE YEAR 1926, AND THE AVERAGE RESIDENCE.

Disease.	Number of Cases Dismissed.	Number of Deaths.	Average Residence.							Average.
			-30	-50	-100	-150 Days.	-200	-300	+300	
Pulmonary Tuberculosis—										
Early,	24	1	5	2	8	4	3	3	...	100
Intermediate,	61	2	9	6	19	10	8	4	7	142
Advanced,	75	48	25	20	32	10	11	7	18	157
Diagnosis not Confirmed,	3	1	2	...	2	...	...	...	...	45
Other Forms of Tuberculosis—										
Glands,	48	...	6	2	5	7	8	6	14	213
Spine,	41	13	5	...	9	1	4	5	30	520
Bones other than Spine,	25	1	2	1	9	...	2	6	6	239
Hip Joint,	43	7	3	2	2	3	2	4	34	591
Joints other than Hip,	61	3	5	1	5	4	5	4	40	467
Abdomen,	51	7	6	1	7	5	6	15	18	269
Multiple,	25	10	2	1	5	1	3	5	18	444
Genito-Urinary,	3	1	1	...	...	1	...	...	2	360
Miscellaneous,	5	2	2	1	...	...	...	1	3	332
Diagnosis not confirmed,	19	1	5	4	5	3	1	...	2	92
Total,	484	97	78	41	108	49	53	60	192	297

ROBROYSTON HOSPITAL.—PULMONARY TUBERCULOSIS.—TABLE SHOWING STAGE OF DISEASE, AGE, RESULT OF TREATMENT, &c., OF PATIENTS DISMISSED DURING 1926.

Ages.	Not Classified Further.				Result of Treatment.												Complications.				Condition on or Reason for Dismissal.										Result of Sputum Examination								
	Less than 4 Weeks' Residence.		Deaths among these.		Arrested.		Much Improved.		Improved.		Not Improved.		Died.		Total.		Tubercular.		Other.		Fit for Work or School.		Unfit.		Left Own Accord or Removed by Parents.		Other Reasons		Transferred to Other Institutions		+Admitted. +Dismissed.		+Admitted. −Dismissed.		−Admitted. +Dismissed.		−Admitted. −Dismissed.		No Sputum.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Early Cases—																																							
− 5, - -	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
− 10, - -	...	1	...	...	...	...	2	...	1	1	...	...	...	...	3	1	...	...	...	...	1	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	1	...	2	1
− 15, - -	...	...	...	...	...	...	3	1	1	...	...	...	1	...	5	1	2	...	1	...	...	...	...	...	1	...	...	...	3	1	...	...	...	...	...	...	4	1	1	...
− 25, - -	...	...	...	...	2	1	1	...	1	...	...	...	...	...	4	1	1	...	1	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	1	...
− 35, - -	...	2	...	...	...	...	2	...	...	...	1	...	...	...	3	...	3	...	...	...	1	...	...	...	1	...	...	...	1	...	2	...	...	...	...	...	1	...	...	...
− 45, - -	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
+ 45, - -	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total, -	1	4	...	...	3	2	8	1	3	1	1	...	1	...	16	4	6	...	2	...	7	2	...	...	2	1	1	...	5	1	2	...	...	...	...	...	10	2	4	2
Intermediate Cases—																																							
− 5, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
− 10, - -	...	...	...	...	...	...	...	1	2	...	...	...	...	...	2	1	1	1	...	...	...	1	...	...	...	...	...	...	2	...	1	...	...	...	...	...	1	...	...	1
− 15, - -	...	...	...	...	...	2	...	1	...	1	...	...	...	...	...	4	...	3	...	...	...	...	...	...	...	...	...	...	...	4	...	...	...	1	...	...	...	1	...	2
− 25, - -	...	4	...	...	...	...	...	...	4	1	1	1	...	1	5	3	1	2	1	...	...	...	...	...	1	2	2	...	2	...	4	1	...	1	...	...	1	1	...	...
− 35, - -	1	1	...	...	...	...	2	2	3	3	3	...	...	...	8	5	3	1	2	3	2	...	...	...	1	4	4	...	1	1	7	2	...	...	...	...	1	3	...	...
− 45, - -	1	...	...	...	...	...	1	1	9	1	1	1	...	...	11	3	...	2	2	...	2	...	...	...	2	2	3	1	4	...	4	1	3	...	1	...	3	1	...	1
+ 45, - -	2	...	...	...	...	...	3	...	7	...	1	...	1	..	12	...	2	...	5	...	3	...	...	...	2	...	3	...	3	..	6	...	...	...	2	...	4	...	...	...
Total, -	4	5	...	...	...	2	6	5	25	6	6	2	1	1	38	16	7	9	10	3	7	1	...	...	6	8	12	1	12	5	22	4	3	2	3	...	10	6	...	4
Advanced Cases—																																							
− 5, - -	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
− 10, - -	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
− 15, - -	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
− 25, - -	4	3	2	...	...	...	...	1	5	5	12	5	4	8	21	19	14	10	1	1	2	...	...	...	5	7	2	...	8	4	14	19	2	...	...	...	4	..	1	...
− 35, - -	3	...	2	...	...	...	...	3	1	5	4	4	8	4	13	16	12	2	...	1	...	...	...	...	2	4	...	2	3	6	13	13	...	1	...	...	...	2	...	...
− 45, - -	5	3	4	1	...	...	...	1	1	...	6	4	2	6	9	11	3	3	2	4	...	...	...	...	1	4	1	...	5	1	7	7	...	1	...	2	2	...	...	1
+ 45, - -	3	...	2	...	...	...	...	1	...	...	3	2	2	2	5	5	4	1	...	2	...	...	...	...	1	1	...	...	2	2	3	4	...	1	1	...	...	...	1	...
Total, -	17	6	11	1	...	...	...	6	8	10	25	15	16	20	49	51	33	16	4	8	3	...	...	...	9	16	3	2	18	13	37	43	2	3	1	2	6	2	3	1

SURGICAL CASES: TABLE No. 1. **GLANDS.**

Age Groups	Condition on Admission				Treatment					Condition on Dismissal					Dismissed						Complications	
	Early	Intermediate	Late	Total	Operation	Aspiration	Tuberculin	Other	Total	Well	Improved	Healed	Discharging	Total	Fit	Unfit	At own or Parents' request	For Other Reasons	Died	Total	Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
– 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	..
– 3	...	1	1	2	...	1	...	1	2	...	...	...	2	2	...	...	1	1	...	2	...	1
– 5	...	...	5	5	1	...	...	4	5	1	...	4	...	5	3	...	1	1	...	5	...	1
– 10	...	3	9	12	5	2	...	5	12	7	...	4	1	12	10	...	2	...	...	12	...	1
– 15	1	1	8	10	3	3	...	4	10	7	1	2	...	10	9	...	...	1	...	10	1	1
– 20	...	3	3	6	2	...	...	4	6	2	1	2	1	6	5	...	1	...	...	6	2	...
– 25	1	...	2	3	2	...	...	1	3	2	...	...	1	3	2	...	1	...	...	3	...	1
– 35	1	...	4	5	1	...	...	4	5	1	1	1	2	5	3	...	2	...	...	5	1	1
– 45	1	1	2	4	3	...	...	1	4	3	...	...	1	4	3	...	...	1	...	4	...	1
45+	...	...	1	1	...	1	...	...	1	...	...	...	1	1	...	...	1	...	...	1	...	...
Total	4	9	35	48	17	7	..	24	48	23	3	13	9	48	35	...	9	4	...	48	4	7

SURGICAL CASES: TABLE NO. 2.

SPINE.

Age Groups	Condition on Admission					Deformity on Admission	Treatment					Total	Deformity on Dismissal or Death	Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	Abscess and Sinus	No Abscess or Sinus	Total		Operation	Aspiration	Aspiration and Injection	Appliances	Other			Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' Request	For other Reasons	Died		Tubercular	Other
– 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 3	...	...	...	1	1	1	...	...	...	1	...	1	1	1	...	...	1	1	...	...	...	...	1	...	1
– 4	...	...	...	3	3	3	...	...	...	3	...	3	3	2	1	...	3	1	...	...	2	...	3	...	2
– 5	1	...	...	5	6	6	...	1	...	5	...	6	6	4	1	...	5	4	...	...	1	1	6	1	3
– 10	6	1	...	5	12	11	1	3	2	6	...	12	11	6	..	3	9	5	...	1	3	3	12	2	5
– 15	1	1	...	6	8	5	1	1	...	2	4	8	4	2	...	4	6	2	...	3	1	2	8	4	1
– 20	2	...	...	3	5	5	...	...	1	3	1	5	5	3	...	1	4	3	...	1	...	1	5	2	1
– 25	2	1	...	1	4	3	...	1	...	3	...	4	3	1	...	2	3	1	...	2	...	1	4	1	1
– 35	4	5	...	1	10	8	3	2	1	1	3	10	7	2	2	3	7	...	1	6	...	3	10	3	2
– 45	1	...	...	2	3	3	...	...	1	1	1	3	3	2	...	...	2	1	...	1	...	1	3	1	...
45 +	1	1	...	...	2	2	...	...	...	1	1	2	2	1	...	...	1	1	...	...	...	1	2	1	...
Total	18	9	...	27	54	47	5	8	5	26	10	54	45	24	4	13	41	19	1	14	7	13	54	15	16

SURGICAL CASES: TABLE No. 3. **BONES other than Spinal.**

Age Groups	Condition on Admission					Deformity on Admission	Treatment					Total	Deformity on Dismissal	Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	Ulceration	No Abscess, Sinus, or Ulceration	Total		Operation	Aspiration	Aspiration and Injection	Appliances	Other			Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For other Reasons	Died		Tubercular	Other
– 1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2	...	1	...	...	1	...	...	...	...	...	1	1	..	1	...	...	1	1	...	...	...	...	1	...	...
– 3	...	...	...	3	3	3	...	...	...	2	1	3	2	1	1	1	3	1	...	1	1	...	3	1	1
– 4	...	3	...	...	3	1	...	...	...	1	2	3	1	3	...	...	3	3	...	...	...	...	3	...	...
– 5	...	1	...	...	1	1	1	...	...	...	...	1	...	1	...	...	1	1	...	...	...	...	1	...	...
– 10	1	2	...	1	4	1	...	...	1	...	3	4	...	3	...	1	4	2	...	...	2	...	4	...	1
– 15	1	2	...	1	4	2	2	...	...	...	2	4	1	4	...	...	4	1	...	...	3	...	4	...	1
– 20	1	2	...	1	4	2	...	1	...	...	3	4	1	4	...	...	4	3	...	1	...	...	4	...	2
– 25	...	1	...	...	1	...	1	...	...	...	...	1	...	1	...	...	1	1	...	...	...	...	1	...	1
– 35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 45	...	1	...	...	1	1	...	...	...	...	1	1	1	1	...	...	1	1	...	...	...	...	1	1	...
45 +	...	4	...	...	4	3	2	1	...	...	1	4	3	2	1	...	3	1	1	1	...	1	4	...	1
Total	3	17	...	6	26	14	6	2	1	3	14	26	9	21	2	2	25	15	1	3	6	1	26	2	7

SURGICAL CASES: TABLE No. 4. **HIP JOINT.**

Age Groups	Condition on Admission					Treatment					Total	Deformity on Dismissal		Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	No Abscess or Sinus	Total	Deformity on Admission	Operation	Aspiration	Injection	Appliances	Other		Improved	Not Improved	Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' Request	For other Reasons	Died		Tubercular	Other
– 2	...	...	1	1	1	1	...	...	...	...	1	1	...	...	1	...	1	...	...	...	1	...	1	...	1
– 3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 4	...	1	3	4	3	...	1	...	3	...	4	2	1	1	2	1	4	1	...	2	1	...	4	...	1
– 5	...	...	2	2	2	1	...	...	1	...	2	2	...	2	...	...	2	2	...	...	...	...	2	...	...
– 10	4	...	7	11	6	3	2	...	6	...	11	5	1	9	2	...	11	10	...	...	1	...	11	1	2
– 15	...	2	11	13	11	6	1	...	6	...	13	9	2	11	1	...	12	11	...	...	1	1	13	2	1
– 20	2	...	4	6	4	1	3	...	2	...	6	1	3	1	1	1	3	2	...	...	1	3	6	1	3
– 25	1	...	3	4	2	...	1	...	3	...	4	2	...	3	...	1	4	3	...	...	1	...	4	...	1
– 35	...	3	3	6	5	2	...	...	3	1	6	2	3	5	...	1	6	4	...	2	...	...	6	...	...
– 45	...	1	...	1	1	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	1	1	...	1
45 +	...	2	...	2	2	1	...	...	...	1	2	...	2	...	...	...	...	...	...	..	...	2	2	1	1
Total	7	9	34	50	37	15	8	...	24	3	50	24	13	32	7	4	43	33	...	4	6	7	50	5	11

SURGICAL CASES: TABLE No. 5. **JOINTS other than Hip.**

Age Groups	Condition on Admission				Deformity on Admission	Treatment					Total	Deformity on Dismissal		Condition on Dismissal			Total	Dismissed					Total	Complications	
	Abscess	Sinus	No Abscess or Sinus	Total		Operation	Aspiration	Injection	Appliances	Other		Improved	Not Improved	Healed, including Arrested	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For other Reasons	Died		Tubercular	Other
– 1	...	...	1	1	1	...	...	1	...	...	1	1	...	1	...	...	1	1	...	...	...	...	1	...	...
– 2	...	1	1	2	2	...	...	...	2	...	2	2	...	2	...	..	2	2	...	...	...	...	2	...	...
– 3	...	1	1	2	2	1	...	...	1	...	2	1	1	1	...	1	2	1	...	1	...	...	2	...	...
– 4	...	...	3	3	1	...	...	...	1	2	3	1	...	2	1	...	3	2	...	...	1	..	3	...	1
– 5	...	1	4	5	4	...	...	...	3	2	5	3	1	4	...	...	4	1	...	...	3	1	5	1	3
–10	1	1	13	15	9	...	2	1	10	2	15	7	2	11	2	2	15	9	...	2	4	...	15	1	5
–15	5	6	6	17	13	4	4	...	4	5	17	10	3	16	...	1	17	16	...	1	...	...	17	2	...
–20	1	6	1	8	7	...	1	...	3	4	8	2	5	4	2	...	6	5	1	...	...	2	8	...	4
–25	1	2	2	5	3	2	1	...	...	2	5	1	2	2	...	3	5	2	1	2	...	...	5	2	1
–35	...	2	2	4	4	1	...	1	2	...	4	4	...	4	...	...	4	4	...	...	...	...	4	...	1
35+	...	1	1	2	2	1	...	...	...	1	2	1	1	1	...	1	2	1	...	1	...	...	2	...	...
Total	8	21	35	64	48	9	8	3	26	18	64	33	15	48	5	8	61	44	2	7	8	3	64	6	15

SURGICAL CASES: TABLE No. 6. **ABDOMINAL TUBERCULOSIS.**

Age Groups	Nature of Disease			Total	Condition on Admission							Treatment			Total	Condition on Dismissal				Total	Dismissed					Total	Complications	
	Acute	Sub-acute	Chronic		Distension	Gland Masses	Distension and Glands	Distension and Fluid	Diarrhœa	Obstruction	Other	Total	Operation	General, including Heliotherapy		Arrested	Much Improved	Improved	Not Improved		Fit	Unfit	At Own or Parents' request	For Other Reasons	Died		Tubercular	Other
– 1	1	...	...	1	1	...	...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	1	...	...
– 2	2	...	1	3	1	...	...	..	2	...	...	3	1	2	3	1	1	...	...	2	1	...	1	...	1	3	...	3
3	...	1	1	2	...	1	...	...	1	...	...	2	...	2	2	...	1	1	...	2	...	...	1	1	...	2	...	1
– 4	...	1	5	6	2	2	...	1	1	...	...	6	1	5	6	3	2	...	1	6	3	...	1	2	...	6	...	4
– 5	...	...	3	3	1	...	1	1	...	...	...	3	...	3	3	1	...	1	1	3	1	1	1	...	...	3	...	1
– 10	1	4	9	14	3	4	2	3	...	...	2	14	4	10	14	6	2	1	5	14	8	...	5	1	...	14	1	3
– 15	1	...	11	12	2	4	3	...	...	...	3	12	3	9	12	8	2	...	2	12	7	...	3	2	...	12	...	3
– 20	3	...	6	9	1	1	2	1	...	...	4	9	6	3	9	...	3	1	3	7	3	...	3	1	2	9	1	2
– 25	...	1	2	3	...	...	2	...	1	...	...	3	...	3	3	...	1	1	...	2	1	...	1	...	1	3	2	...
– 35	1	...	1	2	...	1	...	...	...	...	1	2	1	1	2	...	...	...	1	1	...	...	1	...	1	2	...	1
– 45	2	...	...	2	...	...	...	...	1	1	...	2	1	1	2	...	1	...	...	1	...	...	1	...	1	2	...	...
45+	1	...	...	1	...	...	...	...	...	...	1	1	1	...	1	...	...	1	...	1	...	1	...	...	...	1	...	...
Total	12	7	39	58	11	13	10	6	6	1	11	58	18	40	58	19	13	6	13	51	24	2	18	7	7	58	4	18

SURGICAL CASES: TABLE NO. 7.

MULTIPLE LESIONS.

Age Groups	Site of Principal Lesion							Condition on Admission						Treatment					Condition on Dismissal				Dismissed						Complications	
	Glands	Spine	Other Bones	Hip Joints	Other Joints	Abdomen	Total	Sinus	Abscess	Sinus and Abscess	Ulceration	No Sinus, Abscess or Ulcer	Total	Operation	Aspiration and Injection	Appliances	Other	Total	Healed, including Arrested	Improved	Not Improved	Total	Fit	Unfit	At Own or Parents' request	For Other Reasons	Died	Total	Tubercular	Other
– 1	...	...	2	...	...	...	2	...	1	...	...	1	2	...	1	...	1	2	1	...	...	1	1	...	...	...	1	2	2	...
– 2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...
– 3	2	1	2	...	...	...	5	3	1	...	...	1	5	...	1	...	4	5	2	...	2	4	2	...	...	2	1	5	...	3
– 4	...	...	1	1	...	...	2	...	...	1	...	1	2	...	1	...	1	2	1	...	...	1	1	...	...	...	1	2	1	...
– 5	...	1	...	...	...	1	2	...	...	...	...	2	2	...	...	1	1	2	...	1	...	1	...	...	...	1	1	2	1	1
– 10	1	1	3	1	3	1	10	4	3	...	...	3	10	2	5	...	3	10	7	1	...	8	7	...	...	1	2	10	4	3
– 15	1	2	...	...	2	1	6	2	3	...	...	1	6	1	1	2	2	6	2	1	1	4	2	...	...	2	2	6	4	1
– 20	...	...	2	...	2	...	4	3	...	...	...	1	4	1	...	...	3	4	1	1	2	4	1	...	2	1	...	4	1	...
– 25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...
– 35	...	...	1	...	...	...	1	1	...	...	...	...	1	1	...	...	...	1	...	1	...	1	...	...	...	1	...	1	...	...
– 45	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45+	...	...	...	...	3	...	3	2	1	...	...	...	3	...	...	1	2	3	1	...	..	1	1	...	...	...	2	3	1	...
Total	4	5	11	2	10	3	35	15	9	1	...	10	35	5	9	4	17	35	15	5	5	25	15	...	2	8	10	35	14	8

SURGICAL CASES: TABLE No. 8. **GENITO-URINARY and MISCELLANEOUS.**

Age Groups	Localisation of Disease				Treatment				Condition on Dismissal				Dismissed						Complications	
	Genito-Urinary	Skin	Ear	Total	Operation	Tuberculin	General	Total	Arrested	Improved	Not Improved	Total	Fit	Unfit	At Own or Parents' request	For other Reasons	Died	Total	Tubercular	Other
– 1 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 2 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 3 ...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
– 4 ...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	1	1	1	...
– 5 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
– 10 ...	...	1	...	1	...	...	1	1	1	...	...	1	1	...	...	...	...	1	...	1
– 15 ...	...	2	...	2	1	...	1	2	2	...	...	2	2	...	...	...	...	2	1	...
– 20 ...	1	1	1	3	1	...	2	3	2	...	...	2	2	...	...	...	1	3	...	...
– 25 ...	1	...	...	1	1	...	...	1	...	1	...	1	1	...	...	...	...	1	...	...
– 35 ...	1	1	...	2	..	...	2	2	1	...	1	2	1	...	1	...	...	2	...	1
– 45 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45+ ...	...	1	...	1	...	...	1	1	...	...	...	...	...	...	...	...	1	1	1	...
Total ...	4	6	1	11	4	...	7	11	6	1	1	8	7	...	1	...	3	11	3	2

STATEMENT OF CASES (PNEUMONIA) TREATED IN ROBROYSTON HOSPITAL ACCORDING TO SEX.
DATA BASED ON DISMISSALS AND DEATHS FOR YEAR 1926.

Disease.	In Hospital 1st January.		Admitted.		Dismissed.		Died.		Mortality per cent.		Average Residence (Days)			
											Dismissals.		Deaths.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Acute Primary Pneumonia,	10	8	35	11	40	18	5	1	11·1	5·2	33	39	11	8
Acute Influenzal-Pneumonia,	3	8	35	15	31	19	7	4	18·4	17·3	27	28	3	2

In twenty-one cases the diagnosis was changed, five to Pulmonary Tuberculosis; ten to Bronchitis; three to Pleurisy; one to Pyonephrosis; one to Mitral Stenosis and Bronchitis; and one to Constipation.

BELLEFIELD SANATORIUM, LANARK.

The number of patients suffering from pulmonary tuberculosis recommended for admission remained relatively high throughout the year compared with the available accommodation. All beds consequently were continually filled without difficulty, and the summer chalet accommodation was used to the fullest possible extent as in former years.

96 patients were discharged during the year, as compared with 126 during the year 1925. This diminution in numbers is explained by the fact that a more protracted period of treatment was extended to a greater number of patients than was the custom formerly. It is hoped that the positive improvement shown by many of these patients will be held over a much longer period than ordinarily would be expected, and so justify the extended time of treatment. It cannot be said that in any one case a positive cure was obtained, the opinion being that a very considerable period of time must be allowed to elapse, subsequent to sanatorium treatment, before the fact of cure can be with any degree of certainty established.

On the other hand, it may be asserted with some confidence that the majority of patients treated have been in a measure reconstituted, and have been enabled to assert their capacity to establish a degree of resistance to the disease.

The hope, consequently, is that though no permanency of resisting power is anticipated in the majority dealt with, a fair measure of reasonable health, combined with a capacity for a certain amount of work of a suitable nature, will be possible to most of them for some time.

The type of case received remained quite unsatisfactory from the point of view of sanatorium treatment. Too great a number continue to be received who show evidence of extensive, well-established disease of long standing. The outlook in such cases is of necessity quite unsatisfactory, despite the fact that a period of sanatorium treatment does give rise to some improvement in the general condition. The condition of most, manifesting as they did such a definite degree of toxicity, required protracted periods of complete rest before even the minimum of exercise could be with safety permitted.

The opinion is that with such cases the question of instituting any system of graduated labour from which benefit might be anticipated is discounted by the fact that the period of treatment available for each individual is limited.

One death took place during the year. An advanced case, which showed wide involvement of lungs, and no capacity to establish any resistance to the progress of the disease.

Treatment continued to be along general lines; patients, with remarkably few exceptions, proving themselves amenable to direction in all things at all times.

The poultry farm successfully maintained a satisfactory supply of eggs and fowls throughout the year for use in the sanatorium, and the supply of vegetables from the gardens was reasonable. A high standard of health was enjoyed by the staff.

A. YOUNG,
Physician-Superintendent.

18th April, 1927.

BELLEFIELD SANATORIUM.—Tuberculosis.—Table Showing Stage of Disease, Age, Result of Treatment, &c., of Patients Dismissed during Year 1926.

	Result of Treatment						Work or School		Reasons for Dismissal			Result of Sputum Examination					Complications	
Age Group	Arrested	Much Improved	Improved	Not Improved	Died	Less than 4 weeks	Fit	Unfit	Own accord	Other reasons	Transferred	Admitted + Discharged +	Admitted + Discharged -	Admitted - Discharged -	Admitted - Discharged +	No Spit	Tubercular.	Other
Early Cases—																		
- 5	...	1	...	...	...	...	1	...	1	...	...	...	...	..	...	1	1	...
- 10	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	1	1	...
- 15	...	4	...	2	...	...	4	2	3	2	1	...	...	2	...	4	2	...
- 20	...	3	2	...	...	...	5	...	4	1	...	...	1	1	...	3	...	...
- 25	...	3	1	...	...	1	4	...	3	1	...	...	...	1	...	3	...	...
Totals,	...	11	4	2	...	1	15	2	12	4	1	...	1	4	...	12	4	...
Intermediate Cases—																		
- 15	...	6	3	1	...	1	9	1	6	4	...	...	3	1	...	6	1	...
- 20	...	5	5	...	...	...	9	1	5	5	...	4	2	3	...	1	2	1
- 25	...	8	6	3	...	1	12	5	7	6	4	5	4	3	1	4	2	5
- 35	...	6	6	2	...	...	10	4	6	7	1	5	3	4	...	2	4	1
- 45	...	3	7	1	...	1	9	2	5	5	1	...	4	4	...	3	2	...
- 55	...	2	2	1	...	...	1	4	1	2	2	1	2	2	...	...	...	...
- 65	...	...	...	1	...	...	...	1	...	...	1	...	...	1	..	...	...	...
Totals,	...	30	29	9	...	3	50	18	30	29	9	15	18	18	1	16	11	7
Advanced Cases—																		
- 20	...	...	1	1	...	...	1	1	1	...	1	1	1	...	...	...	...	...
- 25	...	...	...	3	1	1	...	3	...	1	2	3	...	...	...	...	...	...
- 35	...	...	...	2	...	...	...	2	...	...	2	2	...	...	...	...	...	...
- 45	...	...	...	1	...	1	...	1	...	...	1	...	...	1	...	...	...	...
- 55	...	...	...	2	...	...	...	2	...	...	2	2	...	...	...	...	...	...
- 65	...	...	1	...	...	...	...	1	...	1	...	...	1	...	...	...	...	..
Totals,	...	...	2	9	1	2	1	10	1	2	8	8	2	1	...	...	...	...

BELLEFIELD SANATORIUM.—YEAR 1926.—TABLE SHOWING CASES DISMISSED AND DIED, WITH AVERAGE RESIDENCE.

Class.	Number Dismissed.	Number of Deaths.	Average Residence—Days. -30	-50	-100	-150	-200	-300	+300
Early, - -	17	—	2	2	2	5	2	3	1
Intermediate, -	68	—	1	8	6	24	5	13	11
Advanced, -	11	1	2	1	2	4	1	1	—
Totals, -	96	1	5	11	10	33	8	17	12

TABLE SHOWING INCIDENCE IN AGE PERIODS.

Age Group.	Early.	Intermediate.	Advanced.	Totals.
- 5	1	—	—	1
-10	1	—	—	1
-15	6	10	—	16
-20	5	10	2	17
-25	4	17	3	24
-35	—	14	2	16
-45	—	11	1	12
-55	—	5	2	7
-65	—	1	1	2
Totals, - -	17	68	11	96